

TECHNOFUN

COMPUTER LITERACY CLASS VIII



तत् त्वं पूषन् अपावृणु
केन्द्रीय विद्यालय संगठन

A Note from Deputy Commissioner, KVS Delhi Region

It is an established fact that the computer education in school plays an important role in overall development of students. Computer with an internet access is the most powerful weapon, which opens the doorway of all information, knowledge and skill available in this universe. However, there was a definite syllabus but in the absence of any study material transaction of the computer literacy as a subject was limited to the imagination of the teacher.

With the advent of new era of artificial intelligence, it is need of the time to introduce technology and coding at an early stage to students, in a uniformed and standard way. In our endeavour to help students become better equipped and confident, we have taken the initiative to develop syllabi and textbooks which touch all the paradigm of teaching ICT in well directed manner.

This book series for class 3 to 8 has been developed with efforts of many teachers and contributions from academicians of KVS Delhi Region. It is based on detailed computer literacy syllabus as per CCE(RTE) and all applications taught are based on free and open source software.

The lesson is based on interaction between two students from primary classes to encourage auto didacticism and to teach them how to think and improve problem solving. We have focused on content and skills to lay a strong foundation for learning computers.

The accomplishment of this venture depends on the cooperation of all principals and teachers who will encourage children, guide them and help them at different steps and give them infrastructure and proper guidance to use this Book.

Comments on the book and suggestions for next edition are most welcome and may be sent to support@kvsrodelhi.in.



(Nagendra Goyal)
Deputy Commissioner

ACKNOWLEDGEMENT

I hereby acknowledge the contribution and counsel of *Smt. Poonam Mallik*, Assistant Commissioner (KVS Delhi Region) as Chief Coordinator with Content Development Team and *Sh. Sanjit Kumar*, Assistant Commissioner (KVS Delhi Region), *Smt. Shilbala Singh*, Assistant Commissioner (KVS Delhi Region) for their regular support and inputs during various meetings.

I also acknowledge the efforts of *Mr. Pravin Kumar*, Administrative Officer (KVS Delhi Region) and *Ms. Shivani Suneja*, Finance Officer (KVS Delhi Region) for helping in Printing and Publishing.

I gratefully acknowledge the contribution and determination of *Ms Monika Batra*, Vice Principal, Kendriya Vidyalaya Janakpuri as Regional Coordinator and co-author and the authors - *Mr. Himanshu Sehgal PGT CS, KV AGCR, Ms Manpreet Kaur, PGT CS KV Janak Puri, Ms. Kanchan Khurana, PGT CS, KV Sainik Vihar, Mr. Narender Kumar, PGT CS Sec 8 R K Puram* in content development.

The contributions of *Mr Rajnish (VP)*, Kendriya Vidyalaya Delhi Cantt No 1 and *Ms. Jhanjha Chakarvarti, PGT Eng, KV Delhi Cantt 3* are acknowledged for reviewing the manuscript of the series.

The untiring efforts of *Ms Monika Batra, (VP), Kendriya Vidyalaya Janakpuri, Mr. Avdhesh Kumar Lawania, PRT, KV JNU, NCERT Br.* for formatting, editing, compilation and final review is highly acknowledged.

Finally, with great pleasure, I acknowledge the contribution of *Master Ansh Kumar, Class XII B (Session - 2020-21), KV Janak Puri* for book cover and graphics (Gowri and Aryan).



(Nagendra Goyal)
Deputy Commissioner

THIS BOOK, OR ANY PART THEREOF, MAY NOT BE REPRODUCED IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF OWNER.

CLASS 8**TABLE OF CONTENTS**

SL.NO.	UNITS	PAGE NUMBER
1	INTRODUCTION TO DATABASE CONCEPTS	1
2	RECAP OF PYTHON OF CLASS VII	22
3	LOGICAL OPERATORS IN PYTHON	29
4	PYTHON	37
5	ADVANCED GIMP	43
6	INFORMATION TECHNOLOGY	56
7	APPENDIX I (ANSWERS)	64

SYLLABUS

<u>CLASS 8</u>			
QUARTER - APRIL TO JUNE			
SL.NO.	UNITS	CONTENTS	
1	INTRODUCTION TO DATABASE CONCEPTS	1.1	DATA
		1.2	DATABASE
		1.3	DATABASE MANAGEMENT SYSTEM(DBMS)
		1.4	TABLE
		1.5	DATATYPE
		1.6	PRIMARY KEY
		1.7	TABLE CREATION USING WIZARD IN LIBRE BASE
		1.8	INSERTION OF RECORD IN TABLE
		1.9	DELETION OF RECORD FROM TABLE
		1.10	QUERY CREATION USING WIZARD
2	RECAP OF PYTHON OF CLASS VII	2.1	BASICS OF PYTHON
		2.2	VARIABLE, DATATYPES AND KEYWORDS
		2.3	OPERATORS (ARITHMETIC & RELATIONAL)
		2.4	SEQUENCE BASED PROGRAMMING
			"IF..ELSE" STATEMENT
QUARTER - JULY TO SEPTEMBER			
3	LOGICAL OPERATORS IN PYTHON	3.1	INTRODUCTION TO LOGICAL OPERATORS
		3.2	TYPES OF LOGICAL OPERATORS NOT, AND, OR
		3.3	RANGE FUNCTION
QUARTER - OCTOBER TO DECEMBER			
4	PYTHON	4.1	CONCEPT OF LOOP/ITERATION: "FOR"
		4.2	PRACTICE PROBLEMS ON "FOR" LOOPS
5	ADVANCED GIMP	5.1	REVIEW OF CLASS VII
		5.2	DIGITAL B&W CONVERSION
		5.3	TONE MAPPING WITH 'COLOURS/EXPOSURE'
		5.4	CHANGING BACKGROUND COLOUR
		5.5	RED EYE REMOVAL
		5.6	SEPIA TONING
6	INFORMATION TECHNOLOGY	6.1	E-LEARNING
		6.2	E-GOVERNANCE
		6.3	E-COMMERCE
		6.4	SOCIAL NETWORKING

1. INTRODUCTION TO DATABASE CONCEPTS



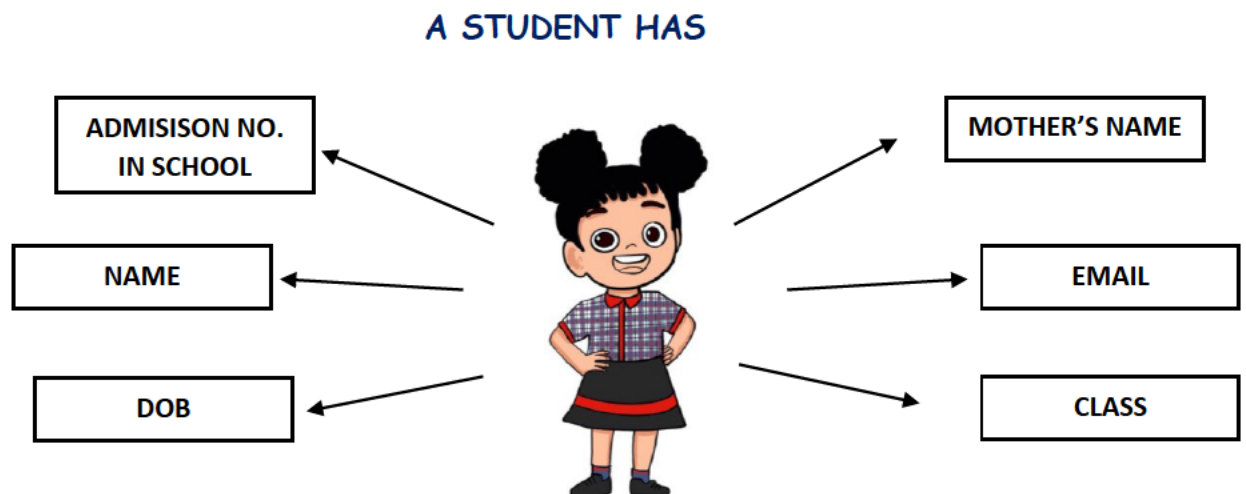
- 1.1 DATA
- 1.2 DATABASE
- 1.3 DATABASE MANAGEMENT SYSTEM(DBMS)
- 1.4 TABLE
- 1.5 DATATYPE
- 1.6 PRIMARY KEY

1.1. MEANING OF THE TERM 'DATA'

Dear students, you have definitely come across the word 'data' in various real-world situations or applications. Actually, whatever we do in the real world, it involves the recording of some facts, figures, etc. These facts, figures, etc. are termed as data.

Let us discuss an example. You are a student of class 8th; this is one of the facts of your whole description. Now, as a student of class 8th, you also possess various other properties or data like Admission No., Name, Section, Father's Name, Mother's Name, Date of Birth, Blood group, etc. So, all these facts are used to describe your entity.

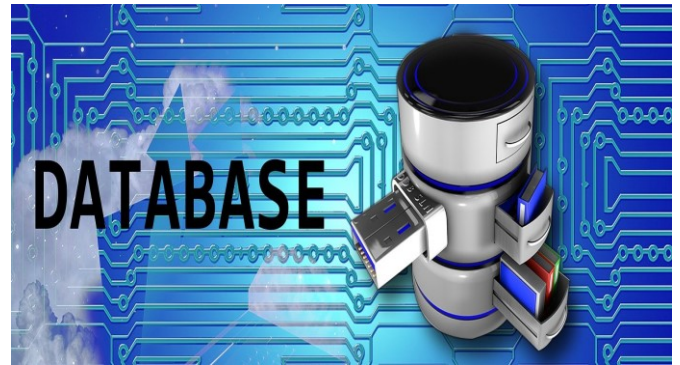
→ **Data:** Data can be defined as the facts, figures, numbers, symbols, etc. that is used to describe the properties of a person, object, etc. Like, a student of a school has various kinds of data as given in the figure below: -



1.2 MEANING OF 'DATABASE'

→ **Database:** A database can be defined as a place or storage area which is used to store huge number of interrelated details of an object in the real world. There are numerous examples of databases in the real world, some of which are :-

1. Database of Students in a school.
 2. Database of Items in a Shopping Mall.
 3. Database of Patients in a Hospital.
 4. Database of Account Holders in a Bank.
 5. Database of Websites on Google.
 6. Database of Players in a Team Game
- And many more....



1.3 DATABASE MANAGEMENT SYSTEM(DBMS)

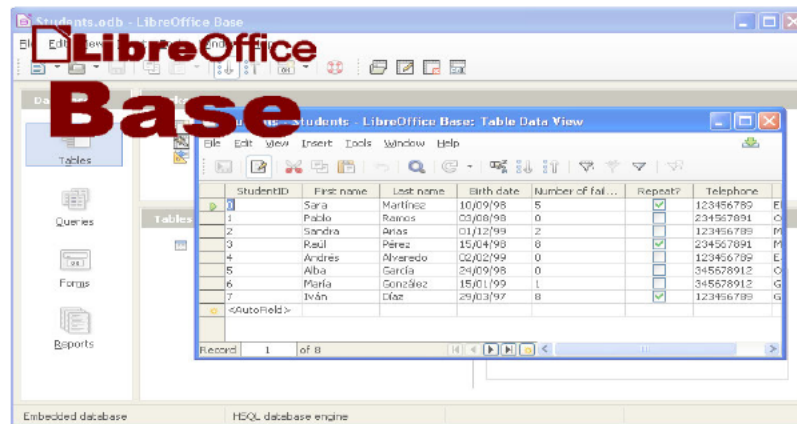
We have already understood the terms data and database. There are thousands of records of students in a school over the years which need to be stored in such a manner that every time someone requires some information about any particular student at any point of time, our database gives the accurate and desired details/information.

Now, here comes the need for a system that is used to manage a huge amount of data/information in an organization over a long period of time without compromising with the accuracy of the data. The answer is Database Management System.

→ **DBMS:** Its full form is Database Management System and it is a software system which is used to create, edit, delete, search data in a database. There are various examples of DBMS available in software like MS-Access, Base in Libre Office, Oracle, MySQL, etc.



We will work in Base DBMS software which is packaged in LibreOffice.



1.4 TABLE IN A DATABASE

Students, there are various methods of storing data in a database but a table provides a very good and user-friendly way of representing data in the form of columns and rows. Therefore, most of the database software use "Table" to store data in a systematic manner. Let us understand its meaning.

→ **Table:** A table is a structure which is formed after the intersection of many rows and columns. Intersection of a row and a column is called a **Cell**. Every table has some fields or columns and some data is stored in these columns. Let us understand the concept of Table from the given example:

TABLE: STUDENT

PRIMARY KEY

↓

COLUMNS

↓ ↓

COLUMNS

↓ ↓

	ADMNO	NAME	CLASS	SECTION
	1001	Raman	6	A
	1002	Aaryan	7	B
	1003	Nanak	8	A
	1004	Meera	8	C
	1005	Kishan	9	B

ROWS

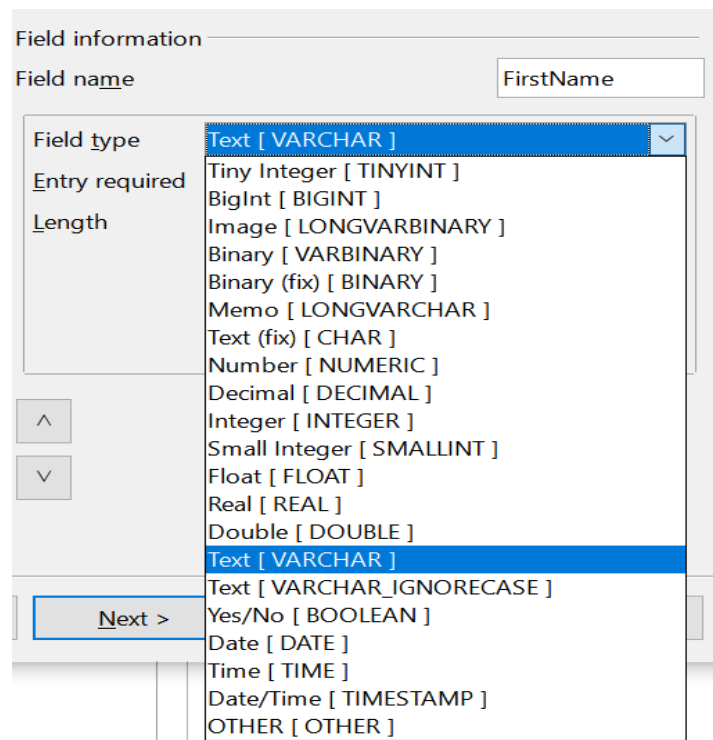
↑

In the above table on Student, there are 4 columns/fields and 5 rows/records of 5 students and the intersection of these rows and columns form a table with $4 \times 5 = 20$ boxes having some kind of data in them.

1.5 DATA TYPE IN A TABLE

→ **Data Type:** - A data type is used to specify the type of data which may be used in a column in a table. For example, there may be different types of data which we deal with, like, integers, decimal values, character values, special characters/symbols, etc. So, in order to store a particular type of value, we need its data type.

The given table will show some of the common data types used in table in Base of LibreOffice:-



Some of the important data types are discussed here: -

Data Type	Type of Values that may be stored
Text [Varchar]	Text values like alphabets or numbers or special characters
Number [NUMERIC]	Only Numbers or Numeric values
Integer [INTEGER]	Only integer both positive and negative
Decimal [DECIMAL]	Stores decimal values
Float [FLOAT]	Stores decimal values
Date [DATE]	Stores date values

1.6 PRIMARY KEY IN A TABLE

→ **Primary Key:** - A Primary key is that column or a field which is used to identify unique values in a table. It is very important to get accurate information from thousands of records stored in a table.

Let us understand the primary key with an example. For example, we have 5 records of 5 students in the above table of students. In the table, 2 students have the same name. Then how can one can identify the correct student in the table? Therefore, we must have such a column in the table that must identify the unique record among any number of records like "ADMNO" given in the above table Student. Here ADMNO can be said to be a primary key to identify each record differently.

Copyright Number:- L-100563/2021 Registered With:- KVS Delhi Region

EXERCISE 1.1**A. Answer the following questions.**

1. What do you mean by a database?

2. What is a DBMS and why is it required?

3. What is a table in a database?

4. Give the name of any one real world example in which you have learnt about database.

5. What is a primary key?

B. Fill in the blanks: -

1. _____ is the storage area which is used to store a huge amount of data.
2. DBMS stands for _____.
3. _____ is the intersection of many rows and columns.
4. _____ is a data type used to store text values.
5. _____ is the column which is used to identify unique values in a table.

C. State True / False: -

1. In a database, data is stored only in tables.
2. Database Management System is a hardware used to maintain the data of the database.
3. Primary key is a row/record used to identify unique values in a table.
4. Data type is used to specify the kind of data to be used in a column of a table.
5. A table is a collection of data in textual form.

SOMETHING TO DO

1. Observe any 5 areas around your real-world surroundings and identify their name of databases which are being used.
2. Create a table named Marks in MS-Excel having the following columns and store %age marks of any of your 5 friends :

Name	Class	Percentage
------	-------	------------

1.7 TABLE CREATION USING WIZARD IN LIBRE BASE

Dear students, we have discussed the concept of Database, DBMS and Table in the previous chapter. Now, in this chapter, we will discuss the creation of a Database and table in it using the Base software in Libre Office.

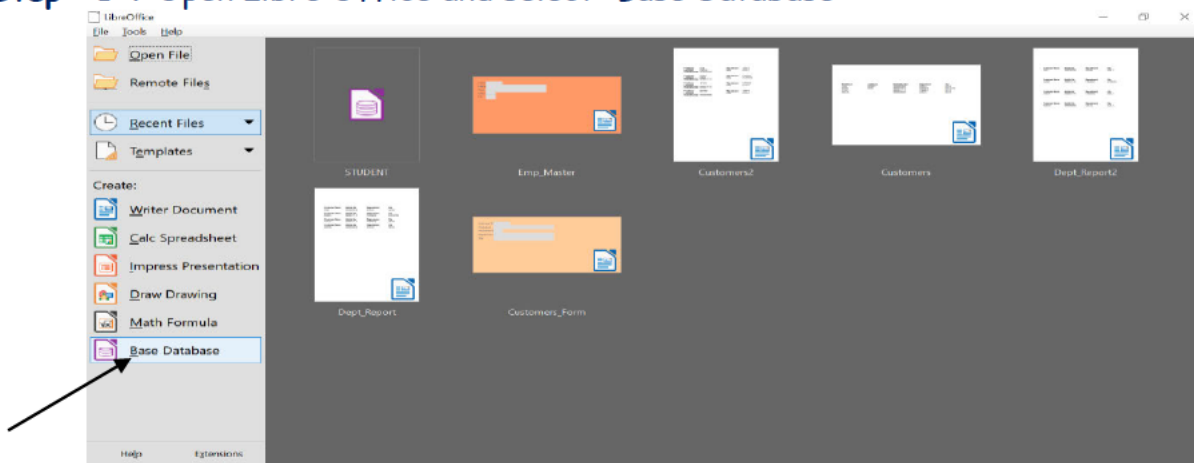
But before this, we need to understand the term Wizard.

→ **Wizard:** A wizard is the step-by-step procedure help to create a table or a database object in Libre Base.

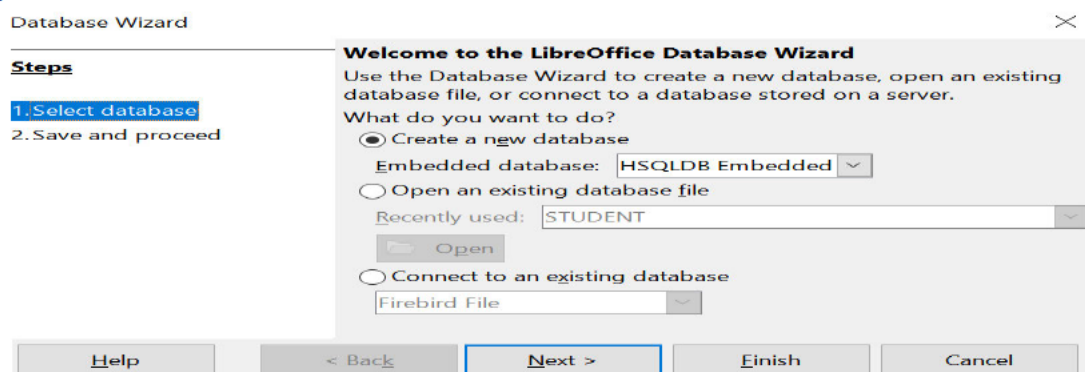
So, let us now understand the creation of a Database and then a table in Libre Base with the help of an example: -

Suppose, we want to create a database named "CONTACTS", in which we store the records of our contacts and their various data. The steps of the creation of the database are given below :-

Step -1 : Open Libre Office and select "Base Database":

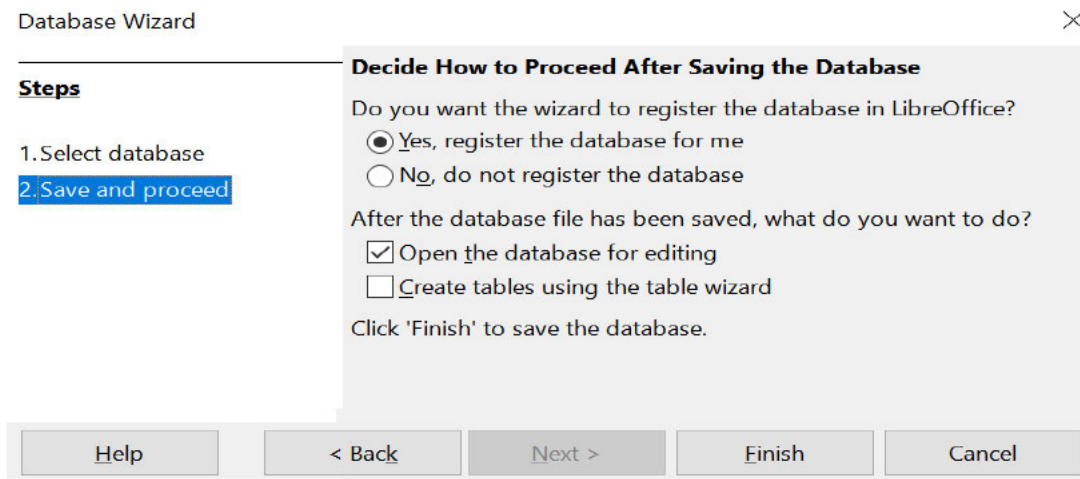


Step -2 : Then select the option of "Create a New Database" and click on "Next" button:

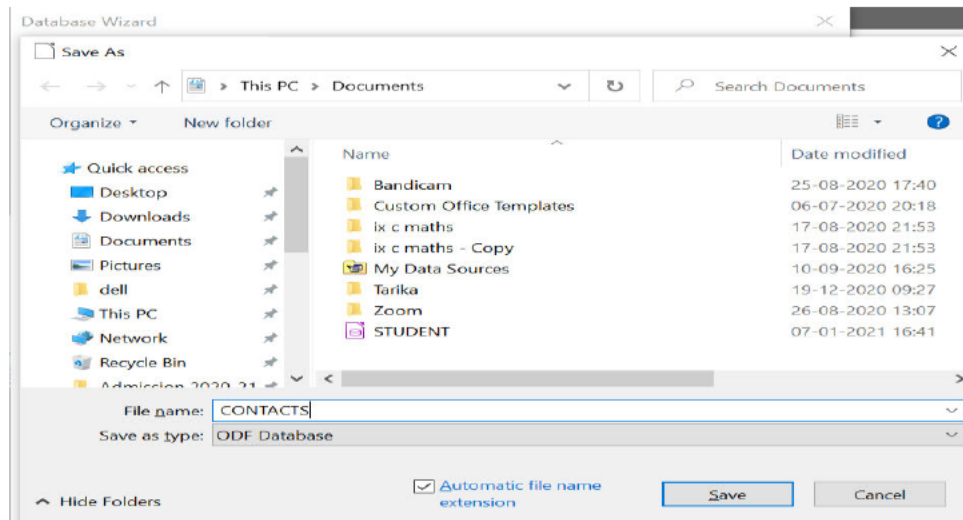


If you already created a database, then you may select the 2nd option "Open an existing database".

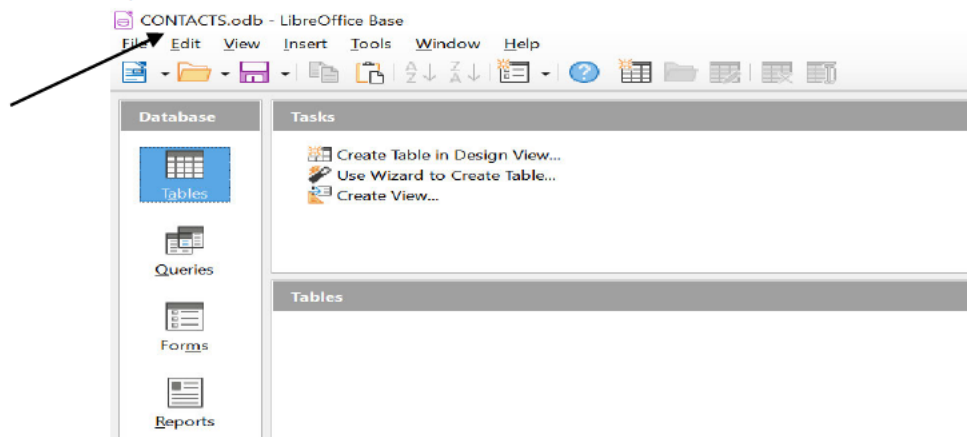
Copyright Number:- L-100563/2021 Registered With:- KVS Delhi Region



Step -3 : Select the options as given in the above screenshot and click on the "Finish" button:



Step -4 : Give a name to your database "CONTACTS" as given in above screen and click on the "Save" button.



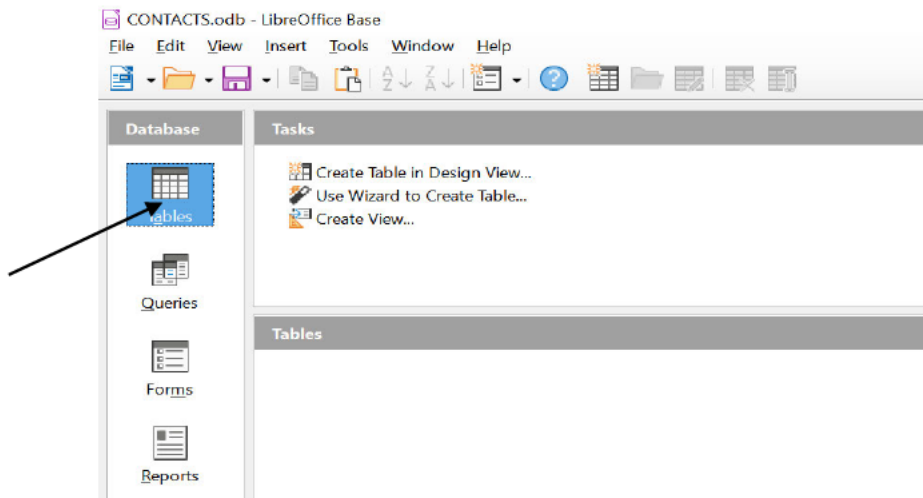
You will get the above screen in which the name of the database "CONTACTS" is given in the title bar.

Above are the steps of creating a database.

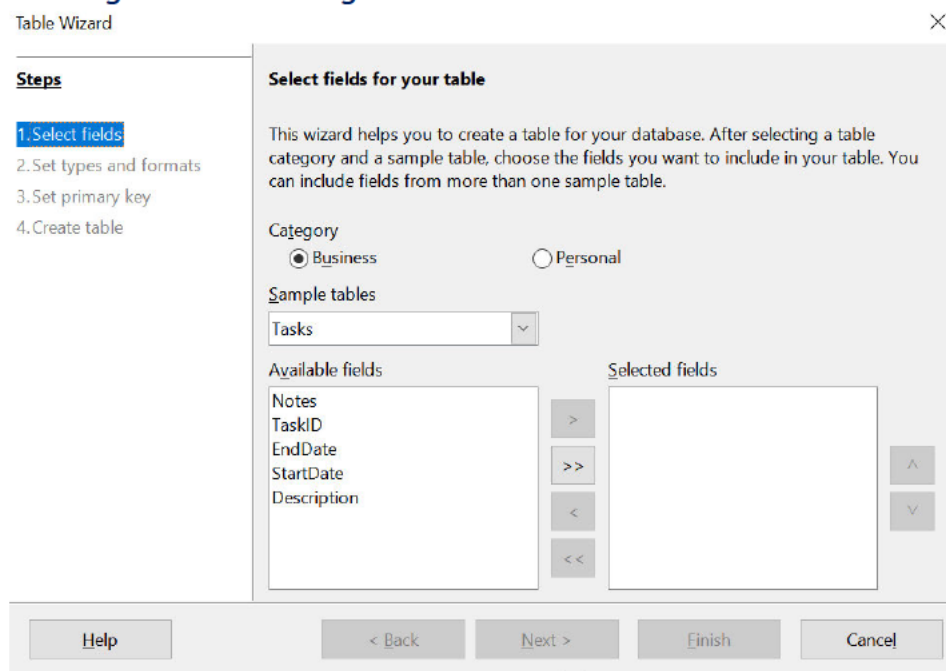
You can observe that there are four (04) options coming in the above screen to create 4 database objects (Tables, Queries, Forms and Reports). In our syllabus of class VIII, we will work on creating Table and Queries.

Now, let us learn about how to create a Table named "Person" in the Base of Libre Office. We will again use a Table Wizard to create the same.

Step-1: Select the option "Tables" in the given screenshot and click on "Use Wizard to Create Table".

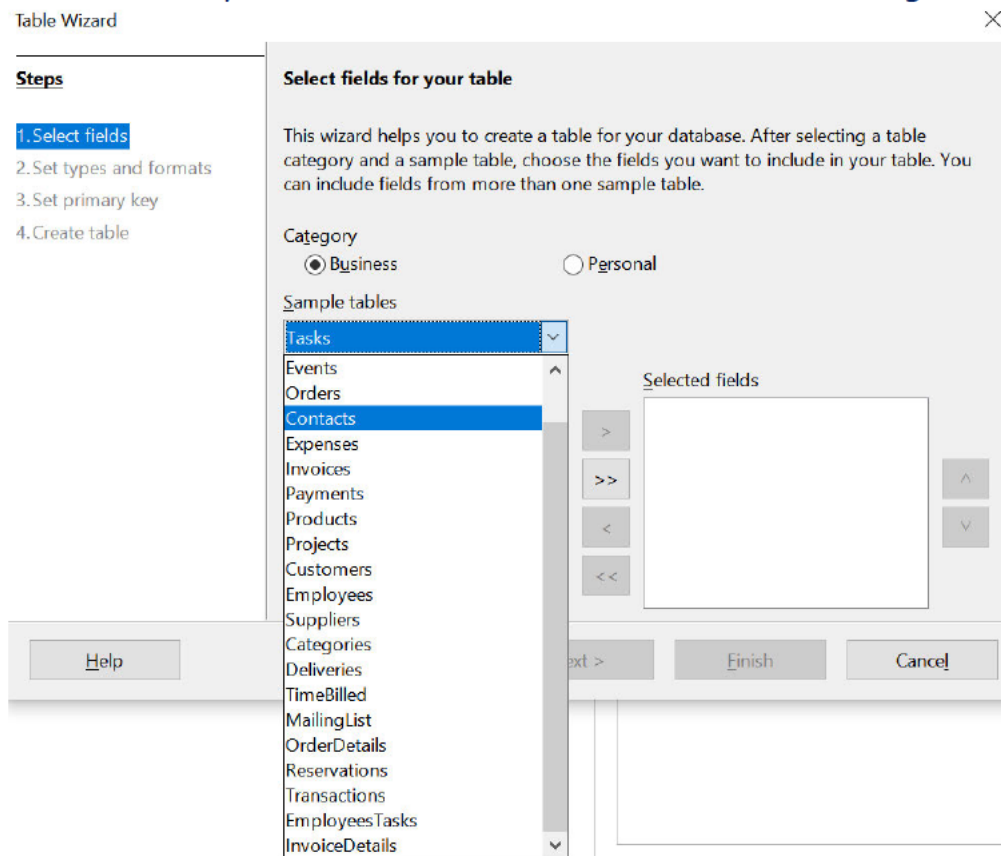


Step-2: You will get the following screen.

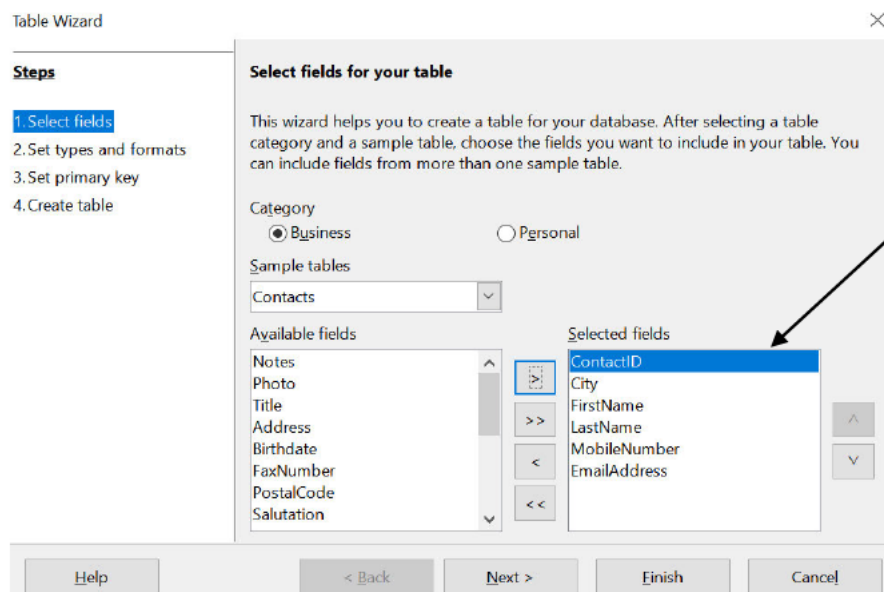


Now there are two categories of Table (Business and Personal) as shown in the above figure.

Step-3: You will get the following screen in which a list of possible tables and their fields are shown. You may select the "Contacts" table from the list as given below.



Step-4: Now select the name of fields you want to add in your table as shown in given screenshot.



We have selected Contact ID, City, FirstName, Last Name, Mobile Number, Email Address. We may also rearrange their sequential order by using the 2 arrows buttons as shown on the given screen.

Table Wizard

Steps

1. Select fields
2. Set types and formats
3. Set primary key
4. Create table

Select fields for your table

This wizard helps you to create a table for your database. After selecting a table category and a sample table, choose the fields you want to include in your table. You can include fields from more than one sample table.

Category
 Business Personal

Sample tables
 Contacts

Available fields
 Notes
 Photo
 Title
 Address
 Birthdate
 FaxNumber
 PostalCode
 Salutation

Selected fields
 ContactID
 FirstName
 LastName
 City
 MobileNumber
 EmailAddress

Buttons: Help, < Back, Next >, Finish, Cancel

Step-5: Now click on the "Next" button as shown in the above screenshot. Then, you will get the following screen in which you have to give the appropriate data types of every field:

Table Wizard

Steps

1. Select fields
2. Set types and formats
3. Set primary key
4. Create table

Set field types and formats

Selected fields
 ContactID
 FirstName
 LastName
 City
 MobileNumber
 EmailAddress

Field information
 Field name: ContactID

Field type: Integer [INTEGER]
 AutoValue: No
 Entry required: No
 Length: 10

Buttons: Help, < Back, Next >, Finish, Cancel

Step-6: Now click on the "Next" button as shown in the above screenshot. Then, you will get the following screen in which you have to select the appropriate PRIMARY KEY for your table by which every record may be identified uniquely:

Table Wizard

Steps

1. Select fields
2. Set types and formats
3. Set primary key
4. Create table

Set primary key

A primary key uniquely identifies each record in a database table. Primary keys ease the linking of information in separate tables, and it is recommended that you have a primary key in every table. Without a primary key, it will not be possible to enter data into this table.

Create a primary key

Automatically add a primary key
 Auto value

Use an existing field as a primary key
 Fieldname: Auto value:

Define primary key as a combination of several fields

Available fields: ContactID, FirstName, LastName, City
 Primary key fields:

Buttons: Help, < Back, Next >, Finish, Cancel

In this step, you may select the 1st option to "Automatically add a Primary Key" or you may select the 2nd option to "Use an existing field as a primary key". Don't use 3rd option as it is out of scope of your book. Then click on the "Next" button. We use

"CONTACT ID" as the primary key from our fields using the 2nd option as shown on the given screen.

Table Wizard ×

Steps

1. Select fields
2. Set types and formats
3. Set primary key
4. Create table

Set primary key

A primary key uniquely identifies each record in a database table. Primary keys ease the linking of information in separate tables, and it is recommended that you have a primary key in every table. Without a primary key, it will not be possible to enter data into this table.

Create a primary key

Automatically add a primary key

Auto value

Use an existing field as a primary key

Fieldname: ContactID Auto value

Define primary key as a combination of several fields

Available fields		Primary key fields	
ContactID	>		^
FirstName	>		v
LastName	<		^
City	<		v

Step-7: Now click on the Next button. Then the following screen will be shown to us.

Table Wizard ×

Steps

1. Select fields
2. Set types and formats
3. Set primary key
4. Create table

Create table

What do you want to name your table?

Contacts

Congratulations. You have entered all the information needed to create your table.

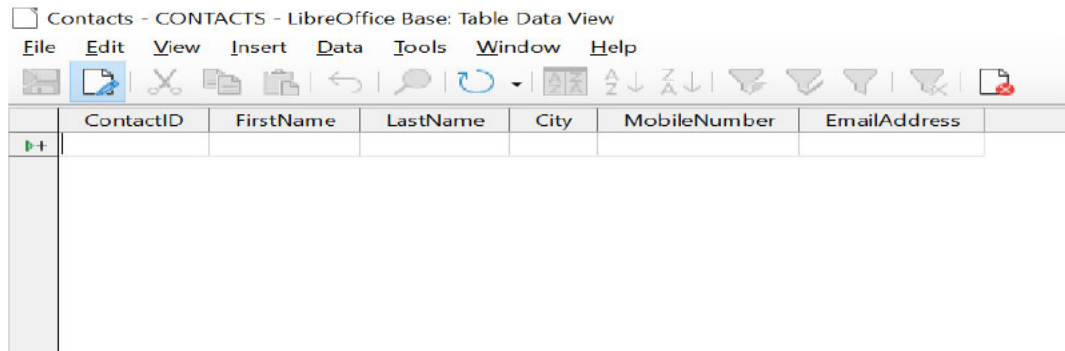
What do you want to do next?

Insert data immediately

Modify the table design

Create a form based on this table

Now click on the "Finish" button. You will see the following screen.



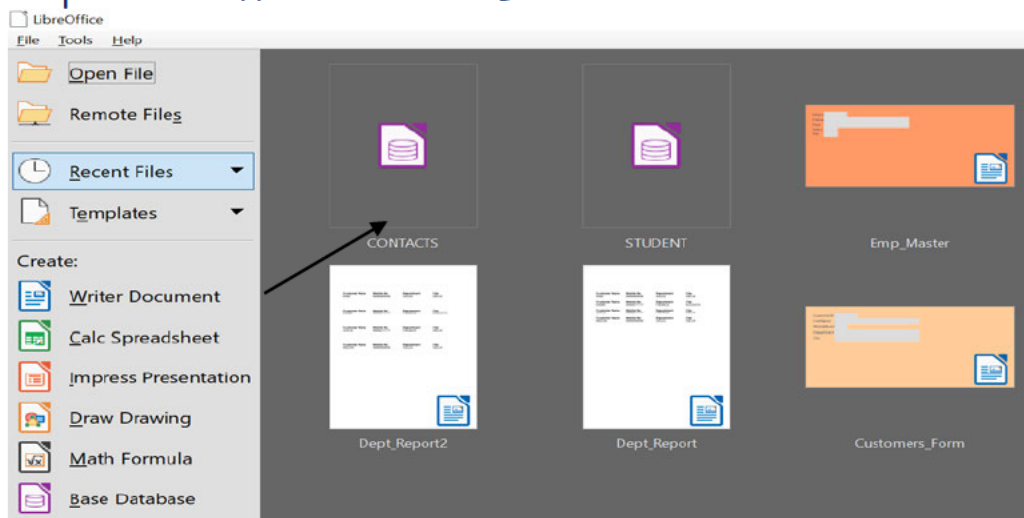
ContactID	FirstName	LastName	City	MobileNumber	EmailAddress

Now, you may observe in the above figure that table "CONTACTS" has been created and all the fields which we have selected in the Wizard are also shown. You may observe that there are no records existing in the above table. This will be discussed in the coming article.

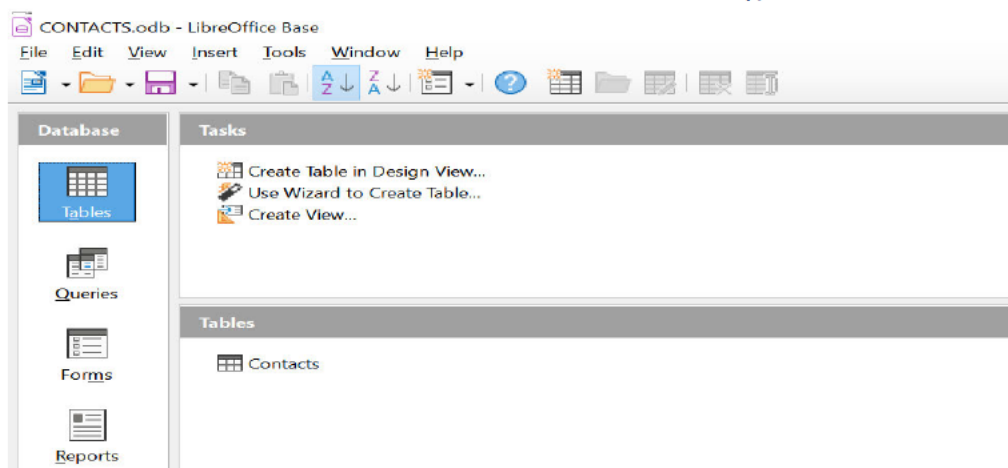
1.8 INSERTION OF RECORD IN A TABLE

Dear students, in this article, we will discuss how to insert new records in a table. Let us learn to do this with the help of our "CONTACTS" table which is created in the previous article.

Step -1 : Open Libre Office and select "Base Database":



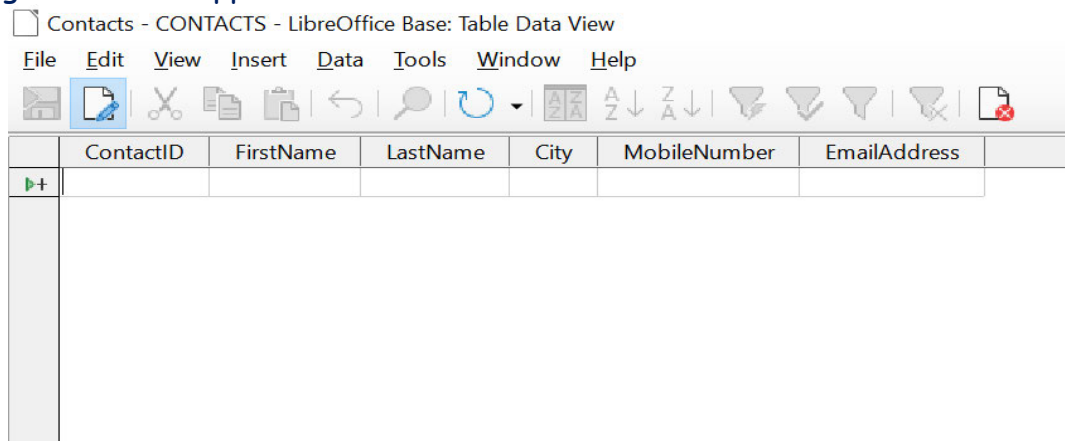
Step -2 : Then select the "CONTACTS" database and click on it.



Step -3: Then select the "Table" icon and click on the "Contacts" table. Then the following screen will appear:

Contacts - CONTACTS - LibreOffice Base: Table Data View

File Edit View Insert Data Tools Window Help

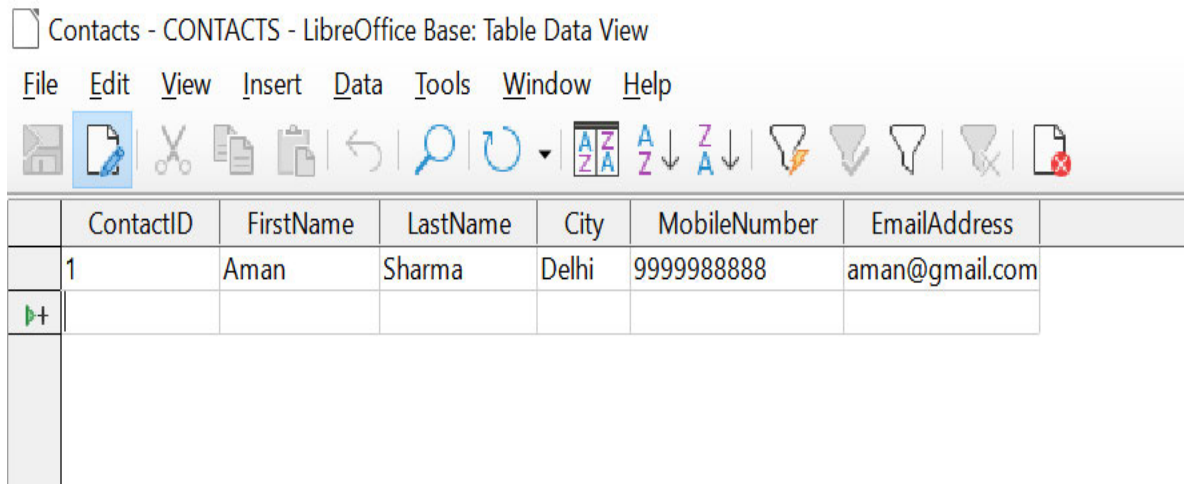


ContactID	FirstName	LastName	City	MobileNumber	EmailAddress

Now enter some data in each of the columns of the above table for one contact "Aman". The following screen will appear.

Contacts - CONTACTS - LibreOffice Base: Table Data View

File Edit View Insert Data Tools Window Help

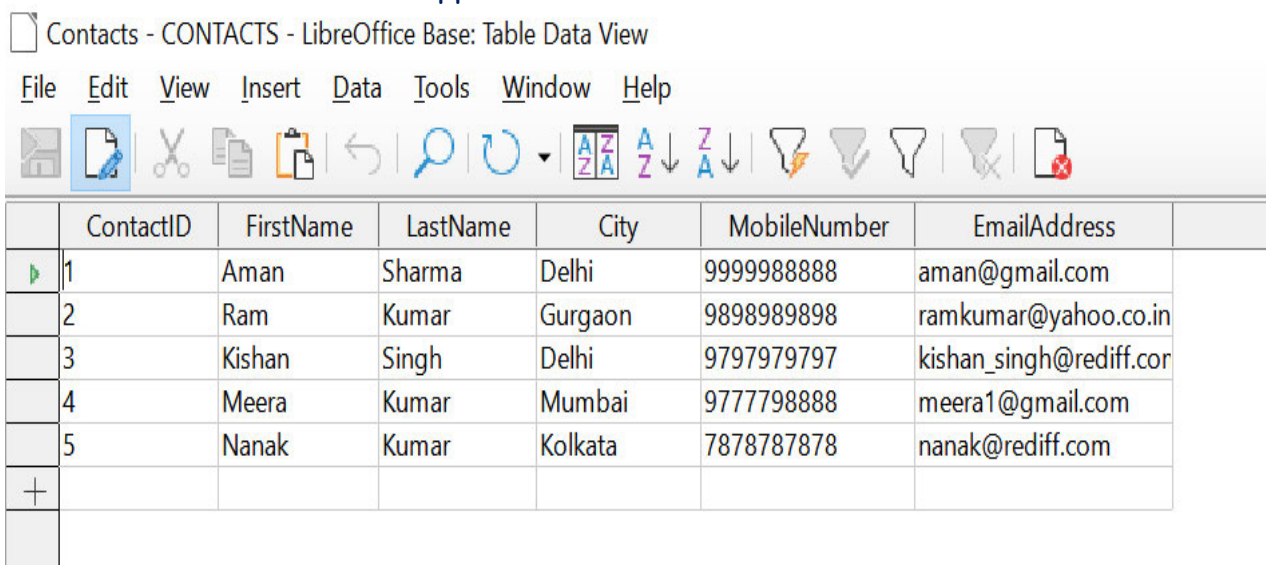


ContactID	FirstName	LastName	City	MobileNumber	EmailAddress
1	Aman	Sharma	Delhi	9999988888	aman@gmail.com

Now enter as many records as per your contact list. Suppose, we enter 4 more contact records in it. The screen will appear as below: -

Contacts - CONTACTS - LibreOffice Base: Table Data View

File Edit View Insert Data Tools Window Help

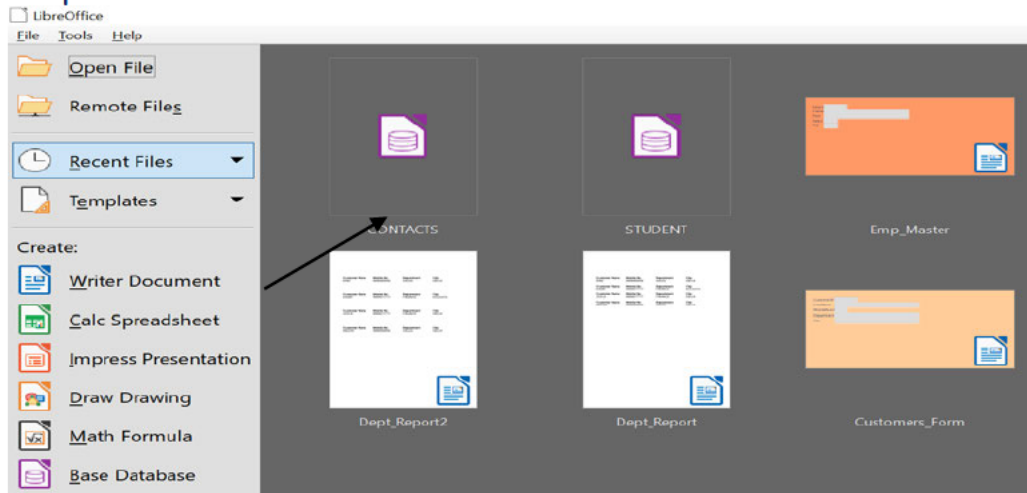


ContactID	FirstName	LastName	City	MobileNumber	EmailAddress
1	Aman	Sharma	Delhi	9999988888	aman@gmail.com
2	Ram	Kumar	Gurgaon	9898989898	ramkumar@yahoo.co.in
3	Kishan	Singh	Delhi	9797979797	kishan_singh@rediff.com
4	Meera	Kumar	Mumbai	9777798888	meera1@gmail.com
5	Nanak	Kumar	Kolkata	7878787878	nanak@rediff.com

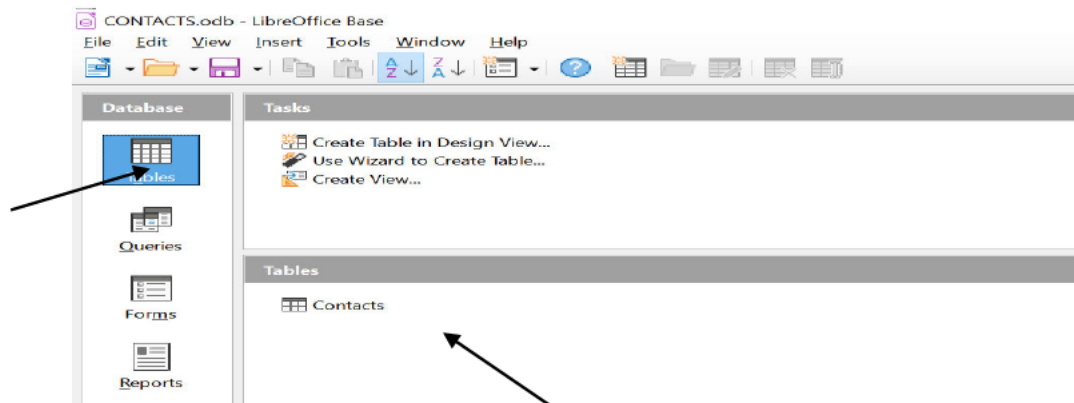
1.9 DELETION OF RECORD FROM A TABLE

In this article, we will discuss how to delete records from a table. Let us learn to do this with the help of our "CONTACTS" table which is created in the previous article.

Step -1 : Open Libre Office and select "Base Database":



Step -2 : Then select the "CONTACTS" database and click on it.

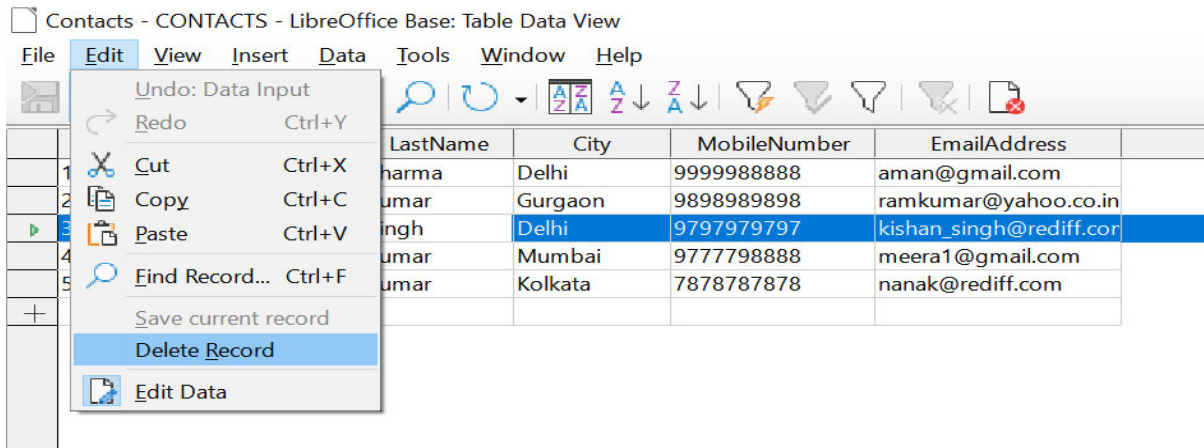


Step -3 : Then select the "Table" icon and click on the "Contacts" table. Then the following screen will appear:

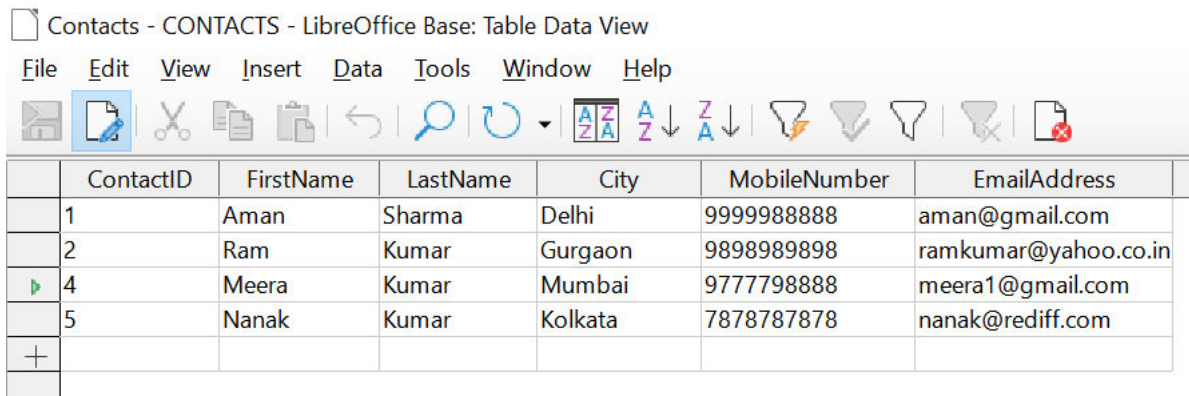
 A screenshot of the LibreOffice Base 'Table Data View' for the 'Contacts' table. The table has columns for ContactID, FirstName, LastName, City, MobileNumber, and EmailAddress. The data is as follows:

ContactID	FirstName	LastName	City	MobileNumber	EmailAddress
1	Aman	Sharma	Delhi	9999988888	aman@gmail.com
2	Ram	Kumar	Gurgaon	9898989898	ramkumar@yahoo.co.in
3	Kishan	Singh	Delhi	9797979797	kishan_singh@rediff.com
4	Meera	Kumar	Mumbai	9777798888	meera1@gmail.com
5	Nanak	Kumar	Kolkata	7878787878	nanak@rediff.com

Step -4: Now, suppose we want to delete the record of 'Kishan' from the table 'Contacts'. Then, we have to select or place the cursor on the record of 'Kishan' and select the "Edit" button from the menu bar. The following menu options will appear on the screen:



Now, select the "Delete Record" option from the menu and the record of 'Kishan' will get deleted. The screen after deletion will be shown as:



Likewise, we may delete other records as per our need.

So, this is how we can insert and delete records from a table in Base of Libre Office. Now, it's time for you to practice on your computer system.

1.10 QUERY CREATION USING WIZARD

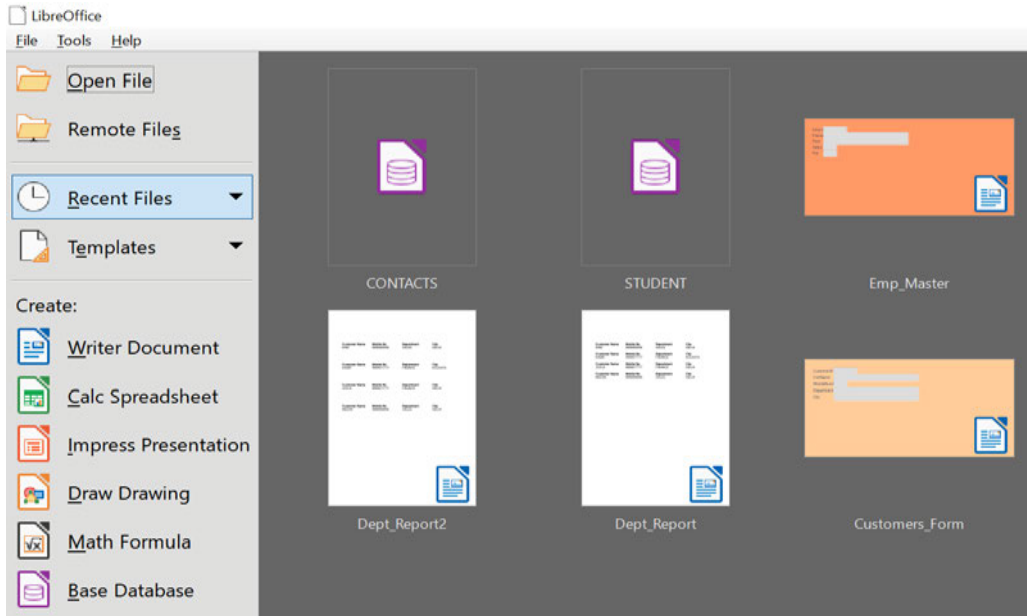
In this article, we will discuss how to query some information from a table. For this, we need to understand the meaning of the term "Query". Let us discuss it first.

→ **Query:** A query is a kind of request for some information from a database or in general term query means to ask some information. Actually, this is the aim of developing a database to provide us information as required. Also, all of us always need some or the other kind of information in our day-to-day life. Therefore, we learn how to develop database and query them for getting information as per our requirement. Base software of Libre Office also provides us the facility to query the database.

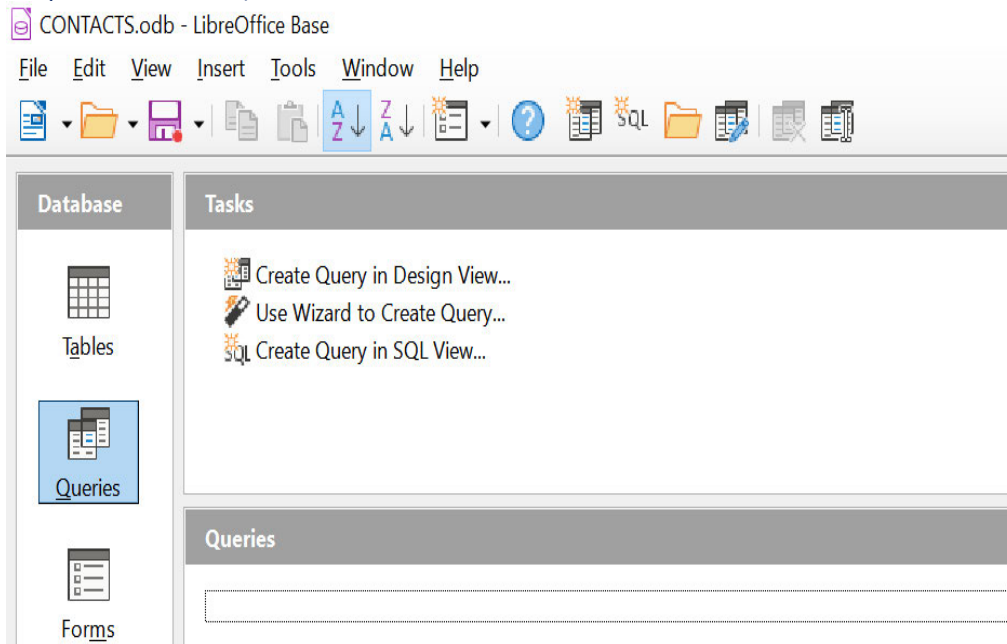
For example, one may need the first name of those contacts who live in "Delhi" from our above created table "Contacts".

Let us now learn to create the query on the above example in Base of Libre Office with the help of our "CONTACTS" table which is created in the previous articles.

Step -1 : Open Libre Office and select "Base Database":



Step -2 : Then select the "Queries" option and click on the option "Use Wizard to Create Query" to create queries on the "Contacts" table .



Step -3: The following screen will appear which shows the steps to create a query using Wizard. Now, select the "Table" from which we have to make a query. As soon as we select the table, its fields will be shown just below it. Just observe the fields of "Contacts" table in the screenshot given below:

Query Wizard

Steps

1. Field selection
2. Sorting order
3. Search conditions
4. Detail or summary
5. Grouping
6. Grouping conditions
7. Aliases
8. Overview

Select the fields (columns) for your query

Tables
Table: Contacts

Available fields
ContactID
FirstName
LastName
City
MobileNumber
EmailAddress

Fields in the Query:

Buttons: >, >>, <, <<, ^, v

Buttons: Help, < Back, Next >, Finish, Cancel

Step-4: Now, we have the option to select all columns or select those columns which we require in our query. As we have to display the "First Name" and the "City" of those contacts who have their City as "Delhi", we need to select only the "FirstName" and the "City" column and click on the "Next" button as shown on the screen given below:

Query Wizard

Steps

1. Field selection
2. Sorting order
3. Search conditions
4. Detail or summary
5. Grouping
6. Grouping conditions
7. Aliases
8. Overview

Select the fields (columns) for your query

Tables
Table: Contacts

Available fields
ContactID
LastName
MobileNumber
EmailAddress

Fields in the Query:
Contacts.FirstName
Contacts.City

Buttons: >, >>, <, <<, ^, v

Buttons: Help, < Back, Next >, Finish, Cancel

Step-5: Now, on the next screen, we need to select one or more fields/columns which is/are to be sorted either in Ascending or Descending Order.

Query Wizard

Steps

1. Field selection
2. Sorting order
3. Search conditions
4. Detail or summary
5. Grouping
6. Grouping conditions
7. Aliases
8. Overview

Select the sorting order

Sort by
- undefined - Ascending Descending

Then by
- undefined - Ascending Descending

Then by
- undefined - Ascending Descending

Then by
- undefined - Ascending Descending

Buttons: Help, < Back, Next >, Finish, Cancel

So, if we want to show the First name in ascending order (i.e. from alphabet a to z), we should do the same on the screen given below:-

The screenshot shows the 'Query Wizard' dialog box, specifically the 'Select the sorting order' step. On the left, a 'Steps' list includes: 1. Field selection, 2. Sorting order (highlighted), 3. Search conditions, 4. Detail or summary, 5. Grouping, 6. Grouping conditions, 7. Aliases, and 8. Overview. The main area is titled 'Select the sorting order' and contains four 'Then by' sections. The first section has 'Sort by' set to 'Contacts.FirstName' and 'Ascending' selected. The other three sections have '- undefined -' in the dropdown and 'Ascending' selected. At the bottom are buttons for 'Help', '< Back', 'Next >', 'Finish', and 'Cancel'.

Step-6: Now on the next screen, we have to put some conditions of the query like we need the First Name of "Delhi" city. So, we will select the field "City" and give the value "Delhi" whose First name we need.

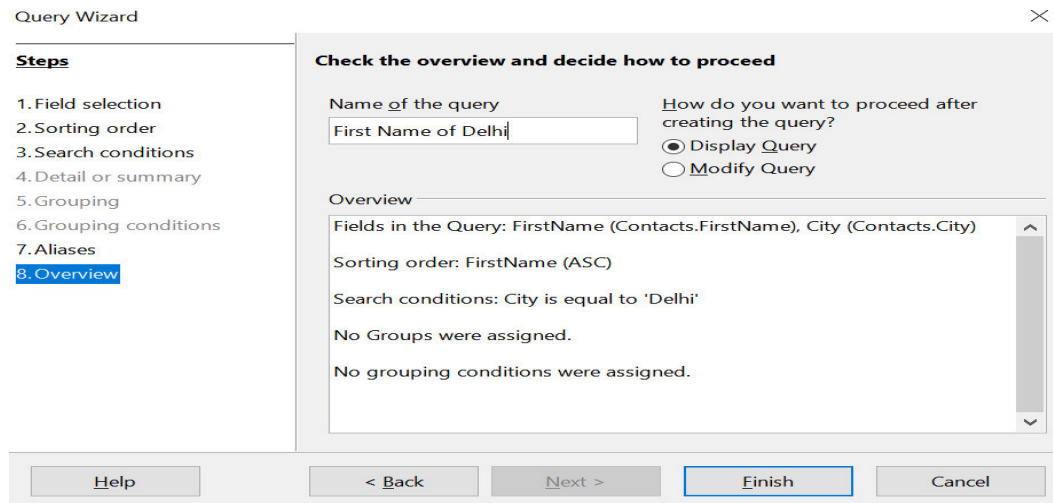
The screenshot shows the 'Query Wizard' dialog box, specifically the 'Select the search conditions' step. On the left, the 'Steps' list includes: 1. Field selection, 2. Sorting order, 3. Search conditions (highlighted), 4. Detail or summary, 5. Grouping, 6. Grouping conditions, 7. Aliases, and 8. Overview. The main area is titled 'Select the search conditions' and has two radio buttons: 'Match all of the following' (selected) and 'Match any of the following'. Below are three rows for conditions. The first row has 'Fields' set to 'Contacts.City', 'Condition' set to 'is equal to', and 'Value' set to 'Delhi'. The other two rows have empty dropdowns. At the bottom are buttons for 'Help', '< Back', 'Next >', 'Finish', and 'Cancel'.

We may also put some more condition(s) as per our requirement of information on the above screen.

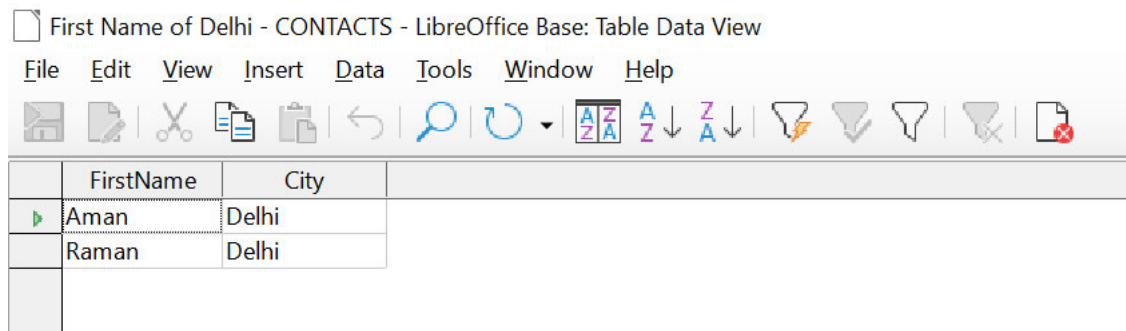
Step-7: Now, on the next screen, we may also give alias names or names of the columns we want. Let us see.

The screenshot shows the 'Query Wizard' dialog box, specifically the 'Assign aliases if desired' step. On the left, the 'Steps' list includes: 1. Field selection, 2. Sorting order, 3. Search conditions, 4. Detail or summary, 5. Grouping, 6. Grouping conditions, 7. Aliases (highlighted), and 8. Overview. The main area is titled 'Assign aliases if desired' and contains a table with two columns: 'Field' and 'Alias'. The first row has 'Contacts.FirstName' in the 'Field' column and 'FirstName' in the 'Alias' column. The second row has 'Contacts.City' in the 'Field' column and 'City' in the 'Alias' column. At the bottom are buttons for 'Help', '< Back', 'Next >', 'Finish', and 'Cancel'.

Step-8: Now, on the next screen, we have to give a name to our query ("First Name of Delhi") and overview our query which we have created till now:

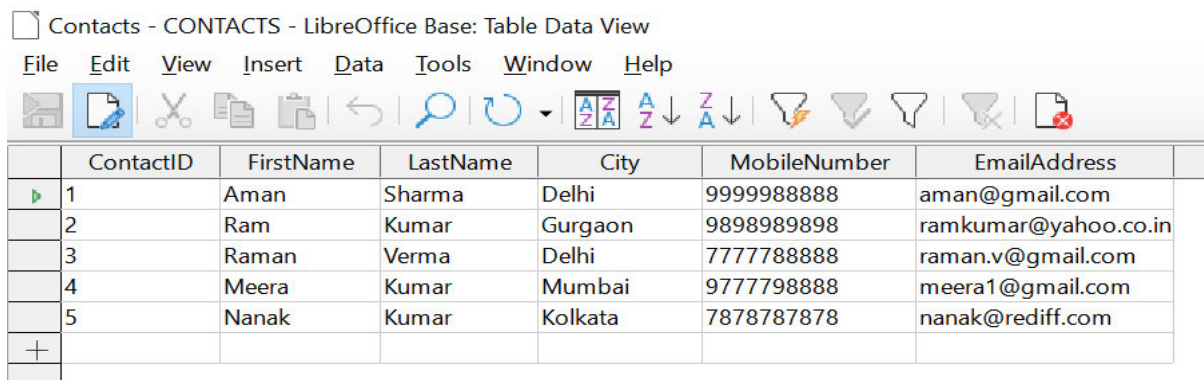


You can observe on the above screen, we have selected the "FirstName" and the "City" fields from the "Contacts" table, all records should be in Ascending order of FirstName field, City should be "Delhi", etc. Now, select the option "Display Query" as shown on the above screen and click on the "Finish" button.



As you are observing from the above screen that we have got the First Name of those contacts whose city is "Delhi".

We may also check whether the correct information has come in our Query or not by viewing all records of our table "Contacts". Let us check it now from the screen given below:



As we can observe from the records of the "Contacts" table, our query shows the correct first names of all contacts who are living in city "Delhi".

Note: As we add more records in our Table "Contacts" our query will show those records which fulfil the condition of "Delhi" city automatically. This is a very good feature in our DBMS Base of Libre Office.

Now, it's your time to practice the above steps to create a query for better understanding.

EXERCISE 1.2

A. Answer the following questions.

1. What do you mean by Wizard?

2. What is the importance of a Wizard?

3. Can we assign a primary key to a field during the creation of a table using wizard?

4. What do you mean by a query?

5. What is the use of query in a database?

B. Fill in the Blanks

1. A _____ is a step by step help of the procedure of creation of a database object.

2. A _____ is a request to fetch some information from a database.

3. One can _____ a field either by ascending or descending order during the creation of a query.

4. We can add or delete _____(s) from the table at the time of creation of a table using wizard.

5. One can give _____ name to a field/column during the creation of a query using wizard.

C. State True / False:-

1. Any number of columns may be added to the table during creation using wizard.
2. A wizard is a step-by-step guide to create a table only.
3. Query is a request of information from the table.
4. A query may have few or all columns as per the need of information.
5. A query once created cannot be deleted.

SOMETHING TO DO

1. Create a table named "Customers" using Wizard that will having the following fields:

Field Name	Data Type
CustomerID	Integer
First Name	Varchar
CompanyName	Varchar
MobileNumber	Integer
Department	Varchar

Also, add any 10 records into the above table on your own.

2. Create the following queries on the above table "Customers" using Wizard:-

- (a) To display the name of those customers who have "Finance" Department. (Add some values of "Finance" in the Department column).
- (b) To display the name and mobile number of all customers in ascending order of their first names.
- (c) To display all records in descending order of their Mobile Number.
- (d) To display the name of all the customers who have Mobile Number less than 955565555.

2.RECAP OF PYTHON OF CLASS VII



2.1 BASICS OF PYTHON

2.2 VARIABLE, DATATYPES AND KEYWORDS

2.3 OPERATORS (ARITHMETIC & RELATIONAL)

2.4 SEQUENCE BASED PROGRAMMING

2.5 "if..else" STATEMENT

2.1 BASICS OF PYTHON

Dear students, you have definitely well understood the basic concepts of Python in class VII and must have practiced and enjoyed them a lot. Also, to solve more Real-World Problems, one must know the topics we have discussed in this class. But to start with the new topics in a smooth manner, we should revise quickly the concepts of class VII taught earlier.

→ **Programming** is the process of writing codes (instructions) in a programming language to resolve some problem/ create games / develop software/ create websites etc.

→ **Algorithm** is the process of writing all the steps required to solve a particular problem. These steps are written in English language to describe each statement.

To develop an algorithm following steps are required:

1. Read problem definition
2. Analyze the problem to identify Input, Output and Process
3. Develop an algorithm
4. Refine by adding more details
5. Review the developed algorithm

→ **Flowchart**: Flowchart is a pictorial representation of steps involved in the solution of a problem. Flowchart is easier to understand as it depicts the solution graphically.

To draw a flowchart, following symbols are used for various purposes.

Start /Stop	Input/Output	Process	Decision Box	Flow lines	Connector

→ **Advantages of Flowchart:-**

Copyright Number:- L-100563/2021 Registered With:- KVS Delhi Region

1. Improved Communication,
2. Visual Clarity,
3. Effective Analysis,
4. Problem Solving,
5. Documentation.

→ **Python:** Python is an open source, high level programming language which has simple syntax similar to the English language. Python was created by Guido Van Rossum in December 1989. The language name is not about snakes, but its name was picked from British Comedy Troupe **Monty Python's Flying Circus**. Guido Van Rossum is a big fan of Monty Python's Flying Circus. Python is used by many big companies like NASA, Google, Nokia, IBM, Netflix, Facebook and Yahoo Maps etc.

→ **Features of Python:-**

1. **Python is Popular:** Python is a popular programming language due to its simple syntax and wide range of applications in various fields.
2. **Python is Interpreted:** Python is an interpreted programming language. Interpreter is that converter program which converts high level language to machine language, one statement at a time.
3. **Python is Free:** Python is freely available to download, use, distribute and modify. Python is an Open-Source Programming Language.
4. **Python is Portable:** Python is a portable programming language. Portability refers to execution of codes on different platforms. If we develop codes for Windows and we want to run on another platform, we don't need to change it.
5. **Python is Easy to Learn and Use:** Python is not just easier to understand, but it is also easier to use.
6. **Python support to GUI programming:** Python supports GUI programming with additional libraries or toolkits.

2.2 VARIABLE, DATATYPES & KEYWORDS

→ **Variable:-** A variable is an identifier or a name used for a value during the program time. E.g., Marks=75.8. Here Marks is a variable which is used to store a value 75.8.

→ **Data Type:-** A data type is used to specify the type of data which may be used in a variable in python. For example, there may be different types of data which we deal with like integers, decimal values, character values, special characters/symbols, etc. So, in order to store a particular type of value, we need its data type. The given table will show some of the common data types used in python:-



Sample Value	Python Data Type used
Integer Values (1, 20, 1500, etc.)	Int
Decimal Values (3.14, 1.73, etc.)	float
Character Values (a, d, D, etc.)	String
Special Characters/Symbols	String

→ **Keyword**:- A Keyword is a pre-defined reserved name in a programming language like python which has fixed working or function. Its function cannot be changed at all during programming. Some of the examples are if, else, in, for, etc.

2.3 OPERATORS (ARITHMETIC & RELATIONAL)

→ **Operator**: Operators are special symbols that are used to perform operations on operands. The values that the operator operates on are called operands.

→ **Expression**: Expression is combination of operator and operands.

→ **Arithmetic Operator**: Arithmetic operator is used to apply basic mathematical operations like addition, deletion, multiplication, division, etc. These operators require two operands to operate. Following are some of the binary operator.

Name of Operator	Symbol used	Purpose	Example
Addition	+	Summation of Numbers	X=5+6 will yield 11
Subtraction	-	Subtraction of Numbers	X=9-5 will yield 4
Multiplication	*	Product of Numbers	X=3*4 will yield 12
Division	/	Division of Numbers	X=9/3 will yield 3.0
Modulus	%	Return remainder	X=5%2 will yield 1
Floor Division	//	Divides and truncates the fractional part from result	X=7//2 will yield 3.0
Exponentiation	**	Return base raised to power exponent	X=3**3 will yield 27

→ **Relational Operator**: Relational operators are used to describe relationship between values or operands. In python, you will use six relational operators for comparing values. These operators are also known as comparison operators.

The six relational operators are:

Operator	Example if a=9, b=5	Result
> Greater than	a>b	True
< Less than	a<b	False
>= Greater than or equal to	a>=b	True
<= Less than or equal to	a<=b	False
== Equal to	a==b	False
!= Not equal to	a!=b	True

You can conclude that resultant of comparison operator will be either True or False.

2.4 SEQUENCE BASED PROGRAMMING

You have already been learnt about simple programming in Python in class VII. Here, it is once again is discussed for revision and more clarity. As we know that programming is the execution of some commands in an order. This is termed as sequential programming. Let us understand and revise it with a simple example.

Suppose, we have to make a program in Python in which we have to accept the "Age" of a person from the user and display its age on the screen after 5 years. Let us write the code for the same in python as given below:

```
age=int(input("Enter your Age:-"))

print("You have entered age : ",age)
print("Your age after 5 years will be : ",age+5)
```

Now, you may observe the commands in python for the above said program. Also, we will see its output at run-time which is given below:-

```
Enter your Age:-14
You have entered age : 14
Your age after 5 years will be : 19
```

As you may observe that above three (03) commands are executed in the order in which they are written and one cannot change the order of execution. So, this is understood as Sequence based programming.

There are a few examples given for more practice at the end of this unit.

2.5 'if..else' STATEMENT

In python, if...else statement is used to test/check one or more condition(s) and then execute some commands. The if...else statement evaluates test expression and will execute the body of if only when the test condition is True. If the condition is False, the body of else is executed. Statements that are written at the same indent form a block.

The **SYNTAX** of if..else statement is:

```
if <condition>:
    Statement 1
    Statement 2
    ...
    ...
```

```
Statement N
else:
Statement 1
Statement 2
...
...
Statement N
```

Let us understand it with an example.

Program to check whether inputted number is smaller than 100 or not. You will write the following code in python.

Code:

```
NUM=int(input("Enter a Number :"))

print("You have entered the Number : ",NUM)

if NUM>100:
    print(NUM," is > than 100")
else:
    print(NUM," is <= than 100")
```

You can observe, we have applied a condition $NUM > 100$. If the entered number is greater than 100 then we will get a message "NUM is > than 100" otherwise we will get a message positive "NUM is <= than 100".

Now, let us observe the output of the above code for one number which is > 100 and one which is not > 100.

```
Enter a Number :101
You have entered the Number : 101
101 is > than 100
Enter a Number :99
You have entered the Number : 99
99 is <= than 100
```

We can also write a single statement or multiple statements in any part of the decision statement.

There are a few examples given for more practice at the end of this unit.

EXERCISE 2.1

D. Answer the following questions.

1. What do you mean by a keyword?

2. What is a variable? Why is it needed in a program?

3. Write the use of a flowchart.

4. What is a data type and what is its importance in programming?

5. What is the meaning of sequential programming?

E. Fill in the blanks:-

6. _____ is reserved word in python like in, for, if, etc. whose function is fixed and cannot be changed.

7. ">" is a type of _____ operator.

8. _____ is the series of the steps of the solution of a problem or a program.

9. "%" is a type of _____ operator.

10. _____ is the pictorial representation of the flow of execution of statements of a program.

F. Match the Following:-

1. /	a) Keyword
2. //	b) Division operator
3. if	c) Floor Division operator
4. %	d) Relational operator
5. ==	e) Modulus operator

G. Predict/Select the correct OPTION/OUTPUT for each question:-

1. (100//3):-

A.	33.3	C.	33
B.	33.0	D.	None

2. (100%3):-

A.	1	C.	3
B.	2	D.	4

3. A=100

B=100//10

if A==B:


```

    print("Equal")
else:
    print("Unequal")

```

A.	Equal	C.	Error
B.	Unequal	D.	None

4. $(10+3*4//2)$:

A.	26	C.	16.0
B.	16	D.	None

5. if $15\%2!=1$:

```

    print("Even")
else:
    print("Odd")

```

A.	Even	C.	Error
B.	Odd	D.	None

H. State True / False: -

- '>' is an arithmetical operator in python.
- In the statement $(3>5)$, 3 & 5 are operators while '>' is an operand.
- 'float' is a data type used to store decimal values.
- 'else' is used to run some statements when the condition given in 'if' is 'True'.
- The expression $"A"=="a"$ gives the output 'True'.

SOMETHING TO DO

- Write a program in python to accept the length & breadth of a rectangle from the user and print the area if it is a square otherwise print its perimeter.
- Write a program in python to accept the number(N) of items and price(P) per item from the user and calculate and display the total amount of all items.
- Write a program in python to accept the marks of a student in 5 subjects and calculate and display the Total Marks and Percentage(%age). Assume Max. Marks in each subject is 100.
- Write a program in python to accept the value of X from the use and calculate and display the value of the following equation: $(X^2 + 3X - 10)$.
- Write a program in python to accept any two numbers A & B from the user. The program will display the bigger number between them otherwise give a message that "Both are equal".

3. LOGICAL OPERATORS IN PYTHON



3.1 INTRODUCTION TO LOGICAL OPERATORS

3.2 TYPES OF LOGICAL OPERATORS

NOT, AND, OR

3.3 RANGE FUNCTION

3.1 INTRODUCTION TO LOGICAL OPERATORS

Dear students, today we shall discuss something about the logical operators in python and its applications in solving a variety of real world applications. We can program mainly those applications that involve the reverse of a given statement/condition or which involves two or more than two conditions. Some of the examples of such applications are:

- (a) We have to print the age of Rama if he is **not** studying in class 8th. This example involves the reverse or negation of a statement/condition.
- (b) Or we have to print the age of Rama **only** if he is studying in class 8th and his/her age is more than 13 years **and** many more like this.
- (c) Or we have to print the age of Rama if he is studying in class 8th **or** his/her age is more than 13 years and many more like this.

Let us now discuss how we can program such applications using the logical operators.

3.2 TYPES OF LOGICAL OPERATORS IN PYTHON

Python supports **three (03)** types of logical operators as are used in almost all the available programming languages. These are:

1. NOT
2. AND
3. OR

→ **'not' operator:** "not" operator functions on a single (01) operand/condition/expression. It reverses the current status(either True or False) of a statement i.e. if the value of the whole statement/expression is **True** then it will give an answer **False** and vice-versa. It can be used in python by the keyword "not".

It can also be understood by the given example:

E.g. suppose statement A is "Meera is a good girl.", then if we say NOT A, it will be read as "Meera is **not** a good girl."

It can also be understood by the following table:

A	not A
0	1
1	0

Here, if the value of A is 0 i.e. False, then NOT A will be 1 i.e. True and if the value of A is 1 i.e. True, then NOT A will be 0 i.e. False.

Now, let us take one more example of NOT operator in python. Just see and try to understand its functioning:

```
Age=14

if not (Age >18):
    print("Age is less than or equal to 18")
else:
    print("Age is greater than 18")
```

The example has a variable named Age whose value is initially assigned 14. Now, the 'if' condition is checking whether the value of the Age variable is not greater than 18, then a message "Age is less than or equal to 18" will be displayed on the output screen. Otherwise, a message "Age is greater than 18" will get displayed if the above condition is False.

→ **AND Operator**: "AND" operators work on two(02) or more than 02 conditions/expressions and it will give the result **True** only when both the conditions are True. It will give the result **False**, if any one of the two(02) conditions is False. In python, this operator is used by symbol "&" or keyword "and".

It can also be understood by the following table:

A	B	A AND B
0	0	0
1	0	0
0	1	0
1	1	1

Here, the value of the final expression will be **1 or True** only when the value of both the conditions A & B are 1 or True.

This can easily be understood by the following example:

Let us say we need to make a program in python to check the age of a student between 13 and 15 and if both these conditions are True, then the value of a CLASS variable will be 8, otherwise a message should be displayed "CLASS NOT KNOWN". This can well be understood by the following code in python:

```
Age=14

if Age >= 13 and Age<=15:
    CLASS=8
else:
    print("CLASS NOT KNOWN")
```

→ **OR Operator:** "OR" operators work on two(02) or more than 02 conditions/expressions and it will give the result **True** if any one of the two conditions is True. It will give the result **False**, if both the two(02) conditions are False. In python, this operator is used by the keyword "or".

It can also be understood by the following table:

A	B	A OR B
0	0	0
1	0	1
0	1	1
1	1	1

Here, the value of the final expression will be **1 or True** if the value of any one of the conditions A & B is 1 or True.

This can easily be understood by the following example:

Let us say we need to make a program in python to check the age of a student whether it is greater than 13 or is smaller than 15 and the value of a CLASS variable will be 8 if any one of the two conditions is 1 or True, otherwise a message should be displayed "CLASS NOT KNOWN". This can well be understood by the following code in python:

```
Age=14

if Age >= 13 or Age<=15:
    print("class is 8")
    CLASS=8
else:
    print("CLASS NOT KNOWN")
```

EXERCISE 3.1**A. Answer the following questions.**

1. What do you mean by the logic of a problem or a program?

2. What is a logical operator?

3. Write the function of 'not' logical operator in python.

4. What is the difference between 'and' & 'or' logical operator?

B. Fill in the Blanks

1. _____ is a unary logical operator that works on a single condition.

2. In the statement $(3 > 5)$ and $(4 <= 8)$, 'and' is a _____ operator.

3. In the statement $(3 > 5)$ and $(4 <= 8)$, '<=' is a _____ operator.

4. _____ logical operator gives the final output 'True' even a single condition is 'True'.

5. 'and' or 'or' logical operators are used when _____ or more conditions are to be checked.

C. Predict/Select the correct OUTPUT for each question.

1. $!(4 > 10)$:-

A.	True	C.	Error
B.	False	D.	None

2. $\text{not } (5 < 3)$:-

A.	True	C.	Error
B.	False	D.	None

3. $(5 > 3)$ and $(8 < 12)$:-

A.	True	C.	Error
B.	False	D.	None

4. $(8 < 2)$ or $(2 <= 9)$:-

A.	True	C.	Error
B.	False	D.	None

5. `not(3==4) and (25==25)`

A.	True	C.	Error
B.	False	D.	None

D. State True / False:-

- 'not' operator can be used in 2 or more than 2 conditions.
- `not(6==6)` gives the result 'True'.
- 'or' operator may be used to check more than 3 conditions.
- 'and' operator will give the result 'True' even if a single condition is True from 2 or more than 2 conditions.
- 'or' & 'and' operator both may work on only a single condition.

SOMETHING TO DO

- Write a program in python to accept a number from the user and check and display whether it is divisible by 3 and 5 both or not.
- Write a program in python to accept the percentage of a student and display its grade as per the conditions given below:

Percentage	Grade
≥ 75	A
Between 60-74.9	B
Between 35-59.9	C
< 35	D

- Write a program in python to accept any three numbers from the user and display the smallest among them.
- Write a program in python to accept the three(03) sides of a triangle and display whether it is equilateral or not i.e. all the 3 sides are equal to each other.
- Write a program in python to accept the total amount(TA) to be paid by a person after shopping in a mall from the user. Also, the shopping mall is giving some discount(D) as per the given conditions:

Total Amount(in Rs.)	Discount(%)
≤ 5000	0
5001-10000	2%
10001 to 25000	5%
> 25000	8%

Now, calculate and display the net amount to be paid by the person after giving Discount(D).

3.3 USE OF "RANGE()" FUNCTION

Python supports a variety of functions which make it very rich in doing the complex things very easily. One such function is "range()".

"range()" function is used to generate a sequence of set of values starting from a particular number called lower limit to another number called upper limit. A sequence is the occurrence of values in a linear order. It works on integer or numeric values only.

Let us now see how the range() function works. Its syntax is:

range(<lower-limit>, <upper-limit>)

range(1,n) function will generate a sequence of values **from 1 to n-1** with an increasing value(called Step-value) of 1 by default.

Some few examples are:

Statement	Sequence of values generated	Step Value or Increasing Value
range(0, 5)	[0,1,2,3,4]	1
range(10,17)	[10,11,12,13,14,15,16]	1
range(4,9)	[4,5,6,7,8]	1
range(8,0)	Blank []	1, as lower-limit is greater than upper-limit

APPLICATION OF "RANGE()" FUNCTION WITH SKIP VALUES

As we have discussed above, "range()" function is used to generate a sequence of values starting from a particular number called lower limit to another number called upper limit with a **DEFAULT SKIP VALUE of 1**. Here, Skip value means the next value which comes after one value, then 2nd value, and so on.

But in this article, we shall discuss that this default skip value may be changed and therefore, its output result. We may pass a Skip value in the range() function that will skip that much value in the previous value and generate a new value till the upper-limit. In the statement range(1,n,2), one will get a sequence of values (1, 3, 5, ... up to n - 1).

We can better understand this by using the following example:-

Statement	Sequence of values generated	Step/Skip Value
range(0, 5, 2)	[0,2,4]	2
range(10,17, 3)	[10,13,16]	3
range(4,9, 2)	[4,6,8]	2
range(8,0, -1)	[8,7,6,5,4,3,2,1]	-1
range(8,0, -2)	[8,6,4,2]	-2
range(8,0, -3)	[8,5,2]	-3

The main application of the range() function will come along with 'for' loop which will be discussed in the next article with plenty of examples.

EXERCISE 3.2

A. Answer the following questions.

1. Write the use of range() function with the help of an example.

2. What do you mean by lower-limit and upper-limit in a range() function?

3. What is a skip value in range() function? Write one example of it.

4. Can range() function print the following output? If yes, then write its command using range() function.

10 9 8 7 6 5 4 3 2 1

B. Fill in the Blanks

- In the statement range(1, 10, 3), 3 is a _____ value.
- In the statement range(1, 10, 3), 10 is _____ value.
- In the statement range(1, 10, 3), 1 is _____ value.
- The output of the statement range(1, 10, 3) is _____.

C. Predict/Select the correct OUTPUT for each question.

1. range(1,5):-

A.	1 2 3 4 5	C.	0 1 2 3 4 5
B.	1 2 3 4	D.	None

2. range(5,12,3):-

A.	5 6 7 8 9 10 11 12	C.	5 8 11
B.	5 6 7 8 9 10 11	D.	None

3. range(4,1,-1):-

A.	4 3 2 1	C.	4 3 2
B.	4 3 2 1 0	D.	None

4. range(1, 4,2):-

A.	1 3	C.	1 3 4
B.	1 2 3 4	D.	None

5. range(-5,3):-

A.	-5 -4 -3 -2 -1 0 1 2	C.	-5 -4 -3 -2 -1 0 1
B.	-5 -4 -3 -2 -1 0 1 2 3	D.	None

D. State True / False:-

- 'range()' function is used to generate some numbers in a given range of values.
- To use the 'range()' function, lower-limit as well as upper-limit values must be passed in it.
- We cannot pass a skip value in the 'range()' function.
- Lower-limit value cannot be less than 0.
- Upper limit value must be a positive value.

SOMETHING TO DO

- Write a statement in Python using range() function to print the following output:-
 - 1 2 3 4 5
 - 1 3 5 7 9
 - 2 4 6 8 10 12 14
 - 4 7 10 13 16 19 22
 - 5 4 3 2 1
 - 10 8 6 4 2

4. PYTHON

4.1 CONCEPT OF LOOP/ITERATION: "FOR"

4.2 PRACTICE PROBLEMS ON "FOR" LOOPS

4.1 CONCEPT OF LOOP: 'FOR' LOOP

In the real world, there are numerous situations in which one has to do some work repeatedly up to a specific number of times. For example, if a student wants to print natural numbers up to 10 or to print his/her name 100 times or to print a Maths table of a given number up to N.

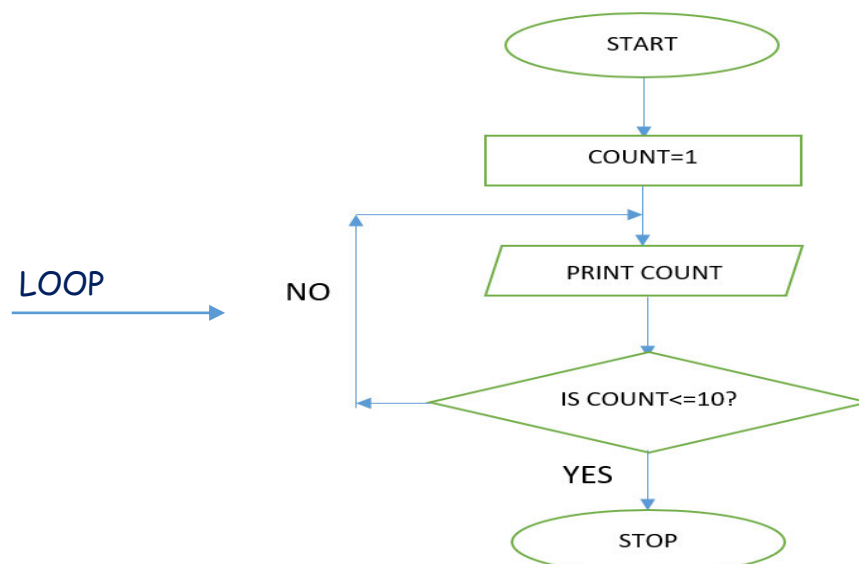
But, to get the solution of the above questions in python, we need to understand the concept of a Loop.

Loop: A loop can be defined as a cycle of execution of various statements again & again up to a specific number of times. Let us take an example to comprehend the concept of loop.

Example: To print the natural numbers up to 10, one must have the following commands:

- (a) First take a variable named *COUNT* and assign it a value 1,
- (b) Then, print *COUNT*,
- (c) Increase the value of *COUNT* by 1,
- (d) Now, check the value of *COUNT* whether it is less than or equal to 10. If it is less than or equal to 10, then execute the steps (b), (c) and (d) again till the value of *COUNT* reaches 10.

To understand the above program more clearly, we can draw its flow chart which is given below:



Now, to execute the above program in Python language, we have to learn the 'for' loop. Let us discuss it.

→ **'for' loop:** 'for' loop is a type of looping statement which is used to execute some commands again and again up to a specific number of times. Its syntax in python is given below:

```
for <loop-variable> in range(<lower-limit>,<upper-limit>):
    Statement - 1
    Statement - 2
    .
    .
    Statement - N
```

} Body of the 'for' loop

Let us discuss the elements of 'for' loop in details:

- 'for' is a keyword and used for 'for' loop,
- Loop-variable is the name of the variable which is used to run the loop and whose value will increase automatically by 1,
- 'in' is a reserved keyword used to check the value of loop-variable in the sequence of the values generated by range() function,
- range() function is discussed above in the previous article.
- Statement -1, 2, ..., N are the statements/commands which are to be executed in the loop again and again.

Now, let us make the program we have discussed above i.e. to print the natural numbers up to 10 using 'for' loop:

```
print("Natural Numbers upto 10 are:")
for COUNT in range(1,11):
    print(COUNT)
```

OUTPUT:-

```
Natural Numbers upto 10 are:
1
2
3
4
5
6
7
8
9
10
```

In the above example, we have taken COUNT as the loop-variable and assign it a value 10 as lower-limit in the range() function. Also, we have assigned the value upper-limit as 11 which is 1 more than 10 up to which we have to print the natural numbers.

4.2 PRACTICE PROBLEMS ON 'FOR' LOOP

In this article, we will discuss and do some problems on 'for' loop for more clarity and understanding of it. Students should practise the same in python.

Q1.	Write a program in python to display the following series in separate lines using 'for' loop: 4 5 6 7 8 9 10 11 12
Ans.	<pre>for i in range(4,13): print(i)</pre>
Q2.	Write a program in python to display the following series in separate lines using 'for' loop: 1 4 7 10 13 16 19
Ans.	<pre>for i in range(1,20,3): print(i)</pre>
Q3.	Write a program in python to accept any two numbers from the user and display the numbers that exist between them excluding them. E.g. if a user enters A=5 and B=11, then the output should be 6, 7, 8, 9, 10.
	<pre>A=int(input("Enter first number:")) B=int(input("Enter second number:")) for i in range(A+1,B): print(i)</pre>
Q4.	Write a program in python to accept a number from the user and display the squares of natural numbers up to it. E.g. if the user enters N=5, then output should be: 1 4 9 16 25
Ans.	<pre>N=int(input("Enter a number:")) for i in range(1,N+1): print(i*i)</pre>
Q5.	Write a program in python to accept a number from the user and display its complete table. E.g. if the user enters N=5, then output should be: 5 10 15 20 25 30 35 40 45 50
Ans.	<pre>N=int(input("Enter a number:")) for i in range(1,11): print(N*i)</pre>
Q6.	Write a program in python to accept a number from the user and display the following output. E.g. if the user enters N=5, then output should be: ---->> ---->> ---->> ---->> ---->>
Ans.	<pre>N=int(input("Enter a number:")) for i in range(1,N+1): print("---->> ", end="")</pre>

Q7.	Write a program in python to accept a number from the user and COUNT and display the number of EVEN elements up to it. E.g. if the user enters N=5, then output should be: 2 as there are 2 even nos.(2 & 4) up to it.
Ans.	<pre>N=int(input("Enter a number:")) count=0 for i in range(1,N+1): if i%2==0: count = count+1 print("Total No. of EVEN numbers upto ",N," are : ",count)</pre>

EXERCISE 4.1

A. Answer the following questions:-

1. What is the meaning of a loop?

2. Why is a loop used in programming?

3. Which loop is used in python?

B. Predict/Select the correct OUTPUT for each question.

1. for I in range(1, 5):

print(I)

A.	1 2 3 4 5	C.	0 1 2 3 4
B.	1 2 3 4	D.	None

2. for X in range(1, 5):

print(X*X)

A.	1 2 3 4 5	C.	1 4 9 16
B.	1 2 3 4	D.	None

3. for X in range(1, 5):
print(X+10)

A.	11 12 13 14 15	C.	1 2 3 4
B.	11 12 13 14	D.	None

4. for I in range(1, 4):
print (I*I*I)

A.	1 2 3	C.	1 4 9
B.	1 2 3 4	D.	1 8 27

5. for X in range(2,7,2):
print (X*2)

A.	2 3 4 5 6	C.	4 16 36
B.	2 4 6	D.	None

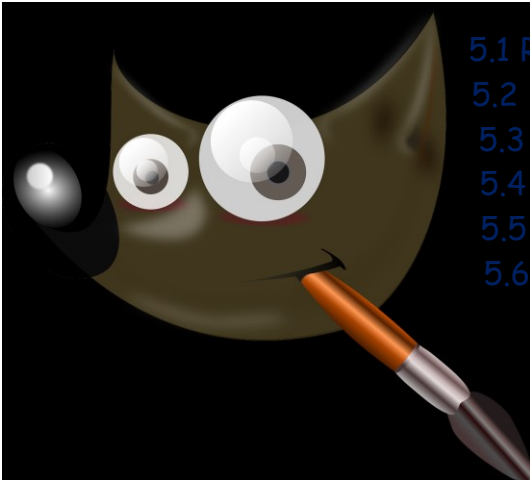
C. State True / False:-

1. A loop is used to run some commands only once when a condition is True.
2. 'for' loop is used in python language.
3. range() function is used in a 'for' loop.
4. One cannot print the following output using a 'for' loop: 10 20 30 40 50.
5. 'for' is a loop that is used to run statements unlimited number of times.

SOME PROGRAMS ON 'FOR' LOOP TO DO

1. WAP in python to accept a number from the user and print your name up that many number of times.
2. WAP in python to accept a number from the user and display the cube of every number up to it.
3. WAP in python to accept any two numbers (a & b) from the user and display the numbers existing between them excluding (a & b).
4. WAP in python to accept a number from the user and display that number up to that many number of times. E.g. if the user enters N=5, then output should be 5 5 5 5 5.
5. WAP in python to display the following output: 2 5 8 11 14 17 20 23

5. ADVANCED GIMP

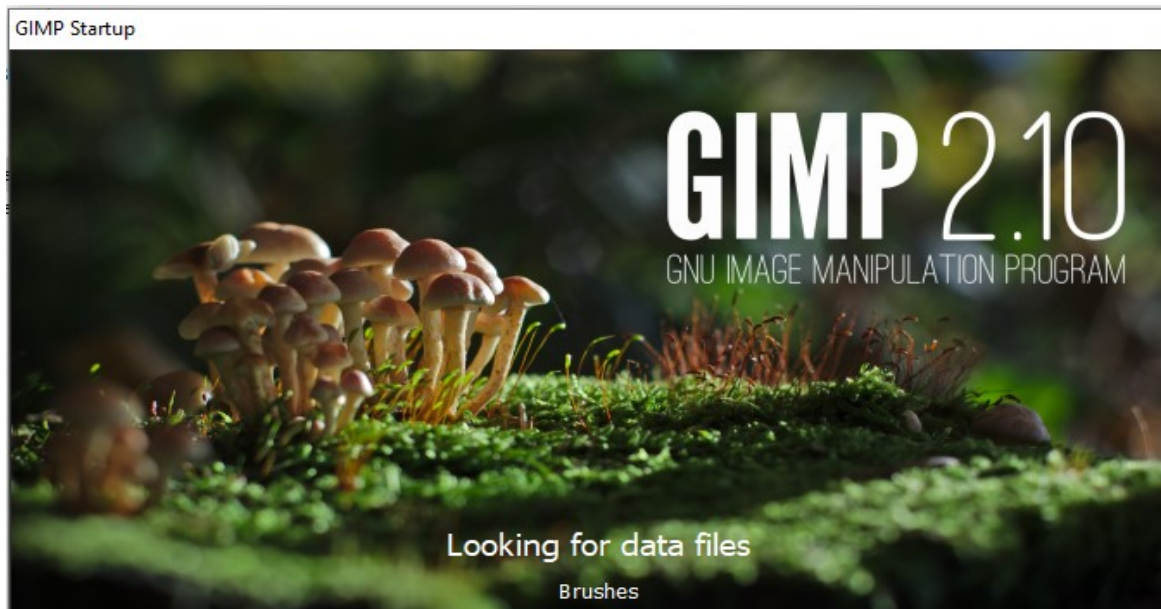


- 5.1 REVIEW OF CLASS VII
- 5.2 DIGITAL B&W CONVERSION
- 5.3 TONE MAPPING WITH 'COLOURS/EXPOSURE'
- 5.4 CHANGING BACKGROUND COLOUR
- 5.5 RED EYE REMOVAL
- 5.6 SEPIA TONING

5.1 REVIEW OF CLASS VII

There are many photo editing software like Photoshop, Microsoft Paint and Drawing of Open Office.org etc. In this chapter, we are going to study GIMP (GNU Image Manipulation Program) software.

GIMP is a Free and Open-Source Image Editor software. It is used for image editing and manipulation.



GIMP is a multi-platform photo manipulation tool. Most GNU/Linux distributions include GIMP as a standard application. The GIMP is also available for other operating systems such as Microsoft Windows™ or Apple's Mac OS X™ (Darwin).

The GIMP is a Free Software application covered by the General Public License [GPL]. The GPL provides users with the freedom to access and alter the source code.

GIMP FEATURES ARE:

- It is Open and Free software.
- It supports different file formats such as gif, jpeg, tiff etc.
- It works with different operating systems such as Linux, Mac OS and Microsoft Windows.
- It is used for image manipulation (retouching) and image editing.
- GIMP provides different tools for image editing.
- GIMP paintbrush tool is used to draw images easily.
- It is a memory efficient graphic tool.
- Combining different images in GIMP to create animation.
- There are several ways of creating colors in GIMP.

HOW TO DOWNLOAD GIMP

Following are the steps to download GIMP:-

- Search website www.gimp.org
- Click on Download.
- Click "Download Gimp"



The Free & Open Source Image Editor

This is the official website of the GNU Image Manipulation Program (GIMP).

GIMP is a cross-platform image editor available for GNU/Linux, OS X, Windows and more operating systems. It is free software, you can change its source code and distribute your changes.

Whether you are a graphic designer, photographer, illustrator, or scientist, GIMP provides you with sophisticated tools to get your job done. You can further enhance your productivity with

Recent News

🌲 Development release GIMP 2.99.4 is out 📅
[2020-12-25](#)

GIMP 2.10.22 Released for macOS
[2020-12-25](#)


This is 25
[2020-11-21](#)

Development release GIMP 2.99.2 is out

GIMP DOWNLOAD NEWS ABOUT DOCS PARTICIPATE TUTORIALS DONATE

Downloads

Translations: en



Current Stable Version
The current stable release of GIMP is 2.10.22 (2020-10-04).

Pssst... want to check out the GIMP 2.99.4 development release?
Get it on our development downloads page.

We think your OS is *Microsoft Windows*.

Show downloads for GNU/Linux | OS X | Microsoft Windows | All

GIMP for Windows

Download GIMP 2.10.22 via BitTorrent

Download GIMP 2.10.22 directly

The download links above will attempt to download GIMP from one of our trusted mirror

After the completion of downloading, Install GIMP on computer.

GIMP FILE FORMATS

Formats	Expansions
PSD	Photoshop
PCS	Personal Computer Exchange
XPM	X Pixmap
JPEG	Joint Photographic Experts Group
PPM	Portable Pixmap
TIFF	Tagged Image File Format
GIF	Graphics Interchange Format
BMP	Bitmap
XWD	X Window System
PNG	Portable Network Graphics

GIMP Compatible Platforms:

- ❖ GNU/Linux (i386, PPC)
- ❖ Microsoft Windows (XP, Vista, Windows 7)
- ❖ Mac OS X
- ❖ Sun Open Solaris
- ❖ FreeBSD

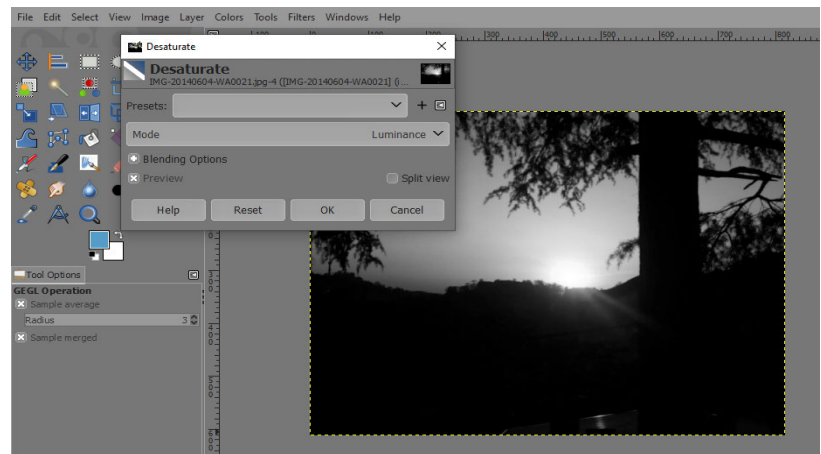
5.2 DIGITAL B&W CONVERSION

Following are the steps to convert black and white image into colour image.

Step 1: Open image

Step 2: Click on colours menu-> Desaturate-> Click on Desaturate.

There are other options also to convert coloured image into black and white. But this is the easiest method. Desaturate command converts all the colours of active layer into shades of greys.

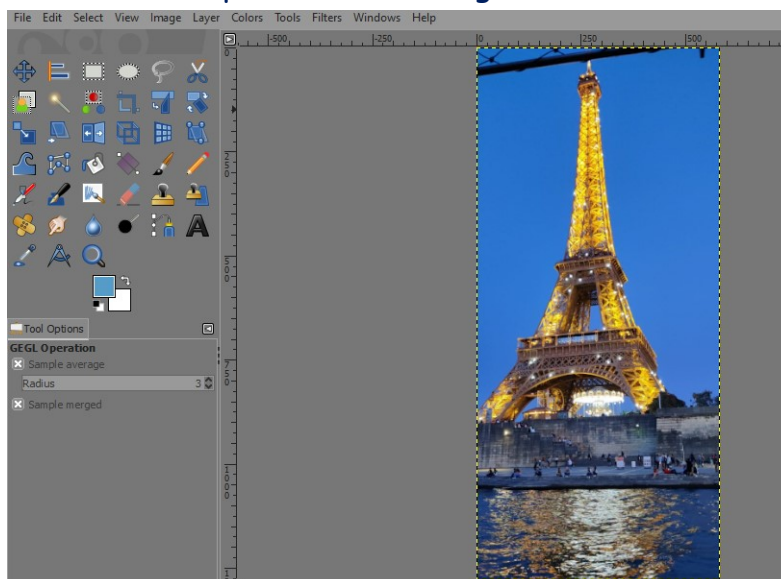


5.3 TONE MAPPING WITH 'COLOURS/EXPOSURE'

Tone mapping is a technique used in image processing and computer graphics. It is used to map one set of colours into another in order to approximate the high-dynamic range images in a medium of more limited dynamic range.

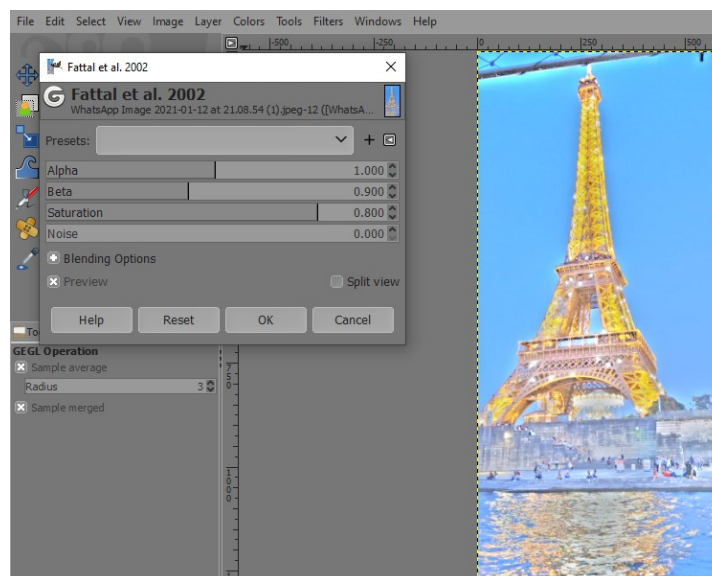
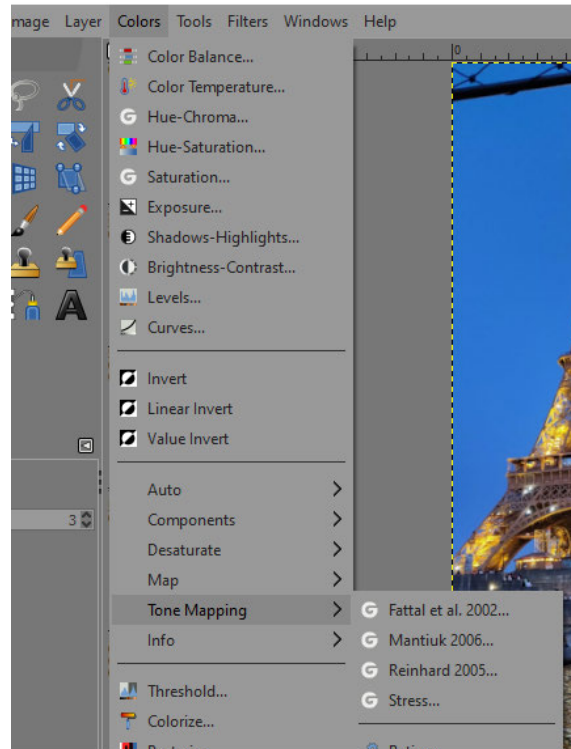
Following are the steps to use Tone Mapping in GIMP:-

Step 1: Click on File->click Open -> Select image.



Step 2: Click on Colors->click on Tone Mapping.

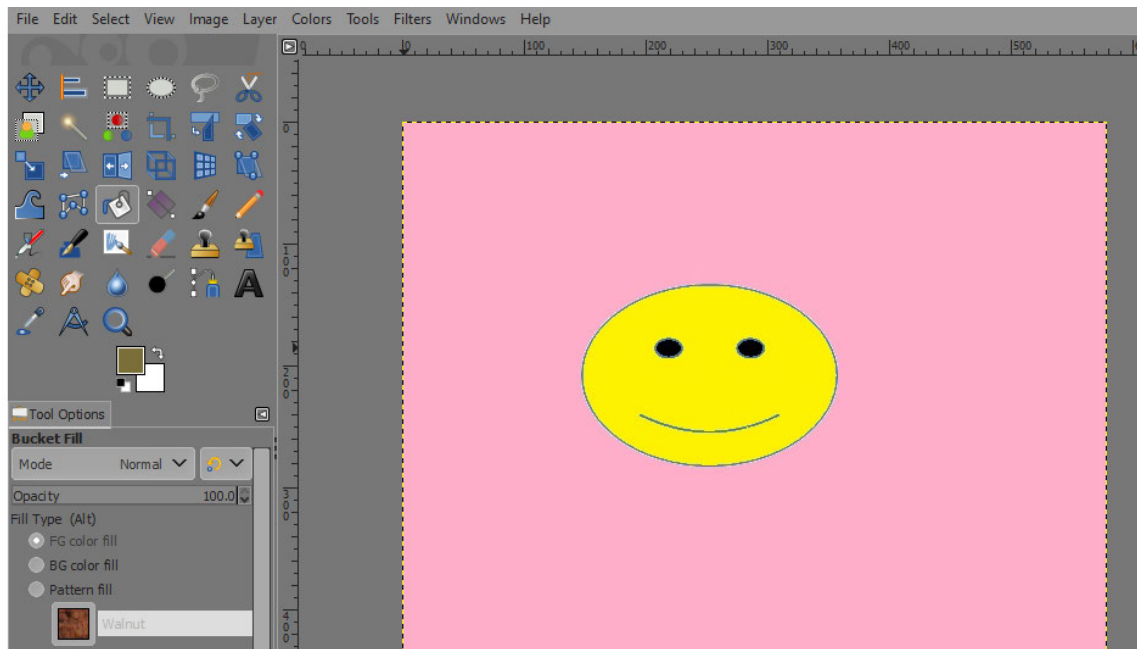
There are different image high dynamic ranges available.



5.4 CHANGING BACKGROUND COLOUR

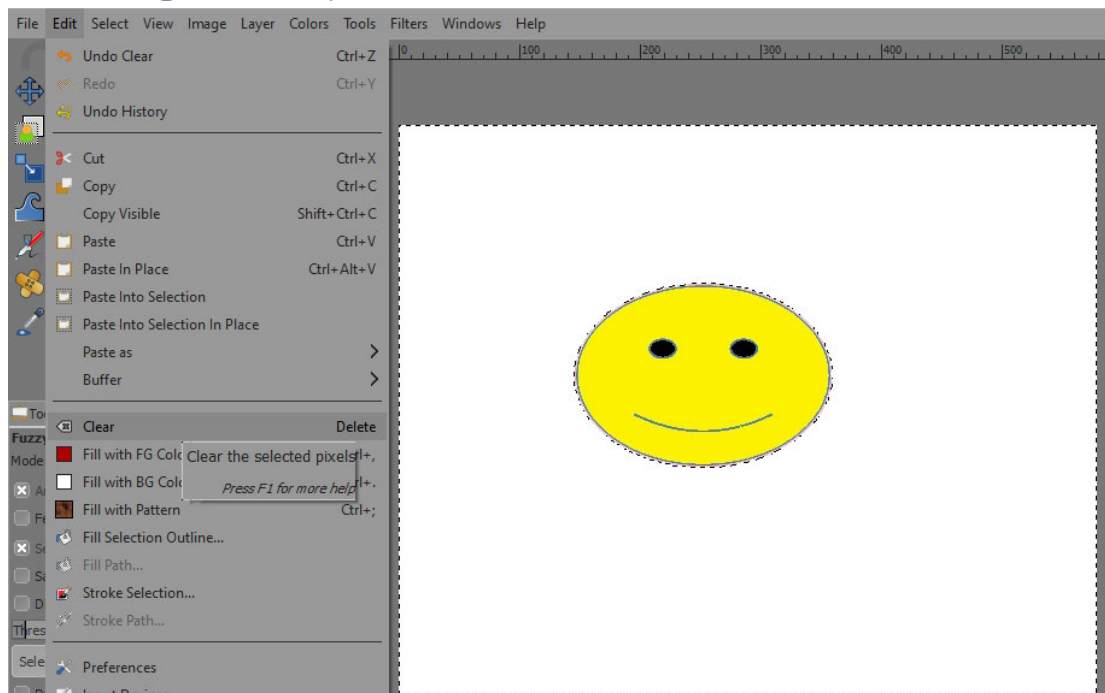
How to change the background colour of your image in GIMP? Following are the steps to change background colours:

Step 1: Click on File->click Open -> Select image.

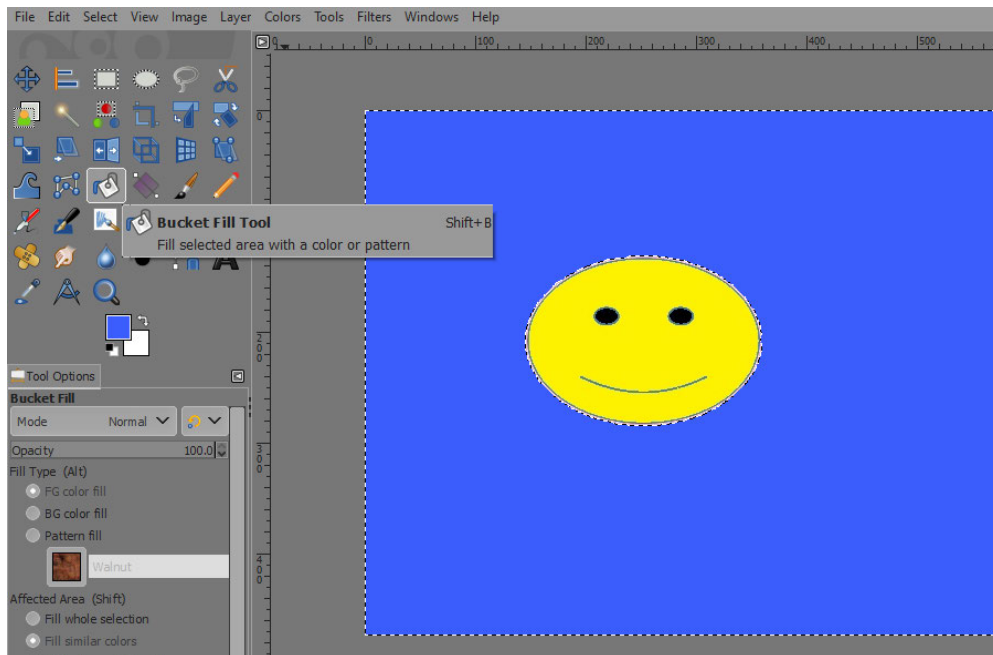


Step2: Click Fuzzy select or Select by colour tool from the Tools panel on the left and select the background colour to select it.

Step 3: Click on Edit > Clear.



Step 4: Now you can see image with a transparent background, If you want to add a solid colour, select the Bucket Fill tool and select the colour from colour palette. Then click on the background of the image to fill it with the new colour.



Step 5: Go to File Menu ->Click Export AS and save your image in .png format.

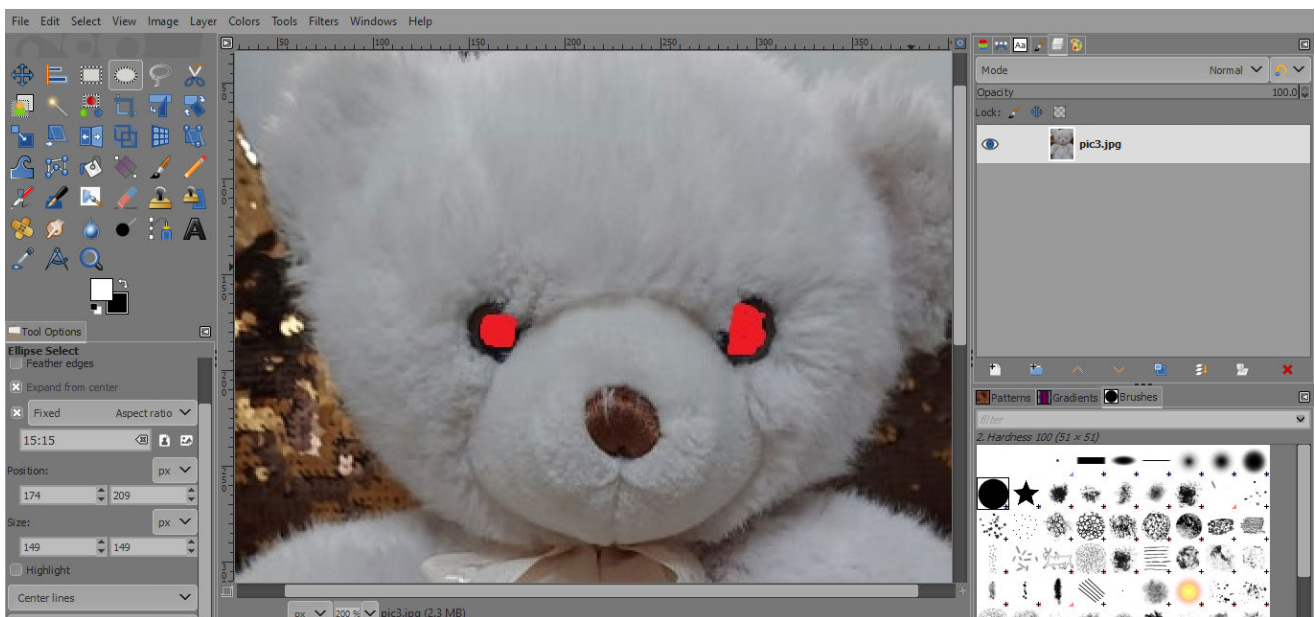
5.5 RED EYE REMOVAL

In Photography red-eye is a very common appearance in coloured photographs of the eyes of both humans and animals. This is due to the flash that is very close to the camera lens in low light.

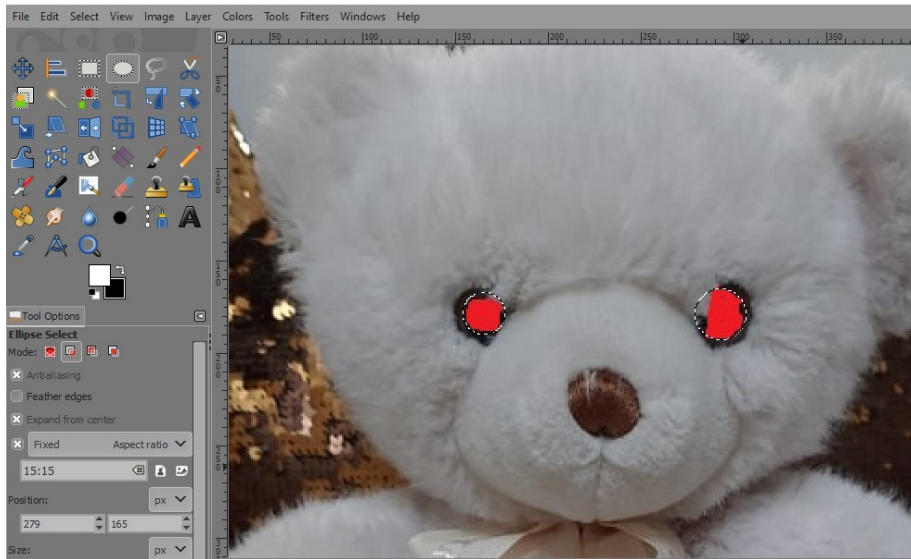
So how can you remove the red-eye in GIMP ? Following are the steps:-

Step 1: Open your image.

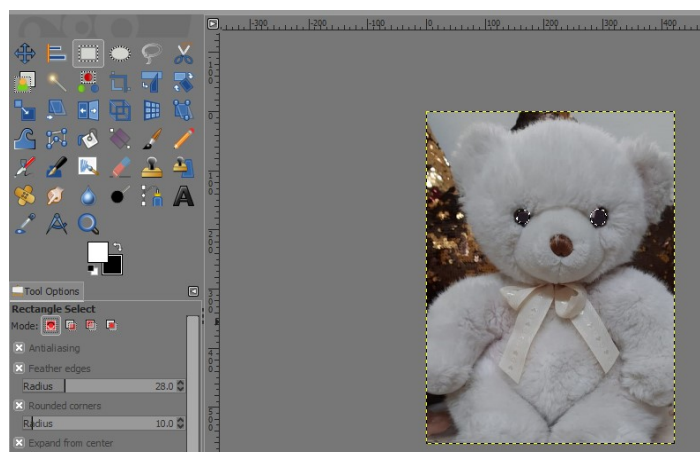
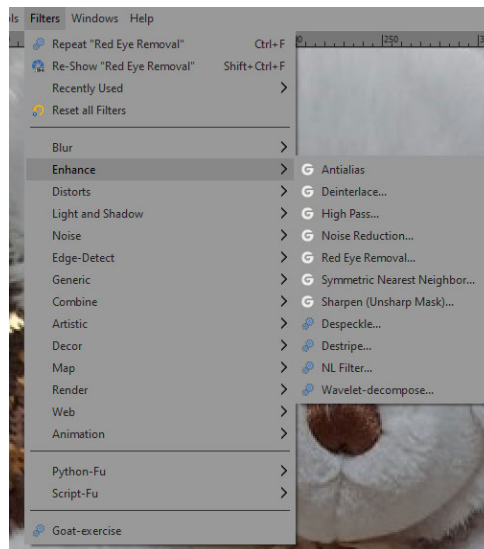
Step 2: Zoom your image by hitting the "+" key, until just the eyes fill the screen.



Step 3: Click on the Ellipse Select Tool in the Toolbox and select "Feather edges" giving them a radius of around 15-20. And draw an ellipse around one eye that encompasses the redness to be removed.



Step 4: Select Menu Filters-> Enhance->click on Red Eye Removal option.



Step 5: Save your image.

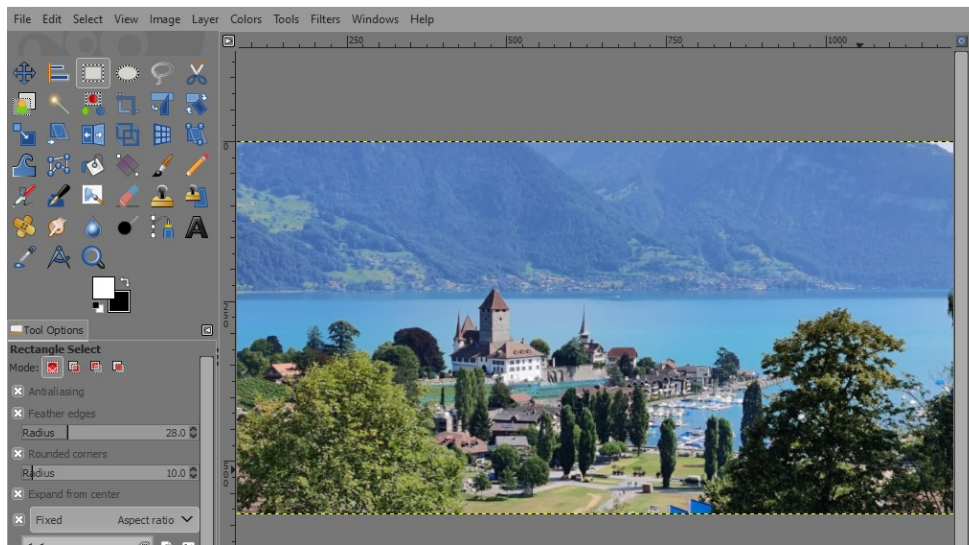
5.6 SEPIA TONING

It is the most popular tool used in image editing. Sepia effect gives your images a warm brownish tone. Sepia filter improves the general look and feel of your image.

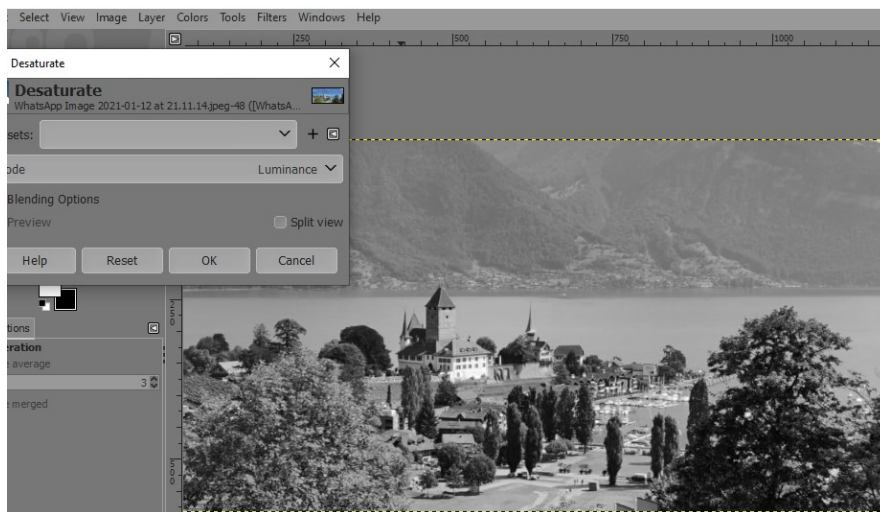
Copyright Number:- L-100563/2021 Registered With:- KVS Delhi Region

Following are the steps to give 'Sepia effect' in GIMP.

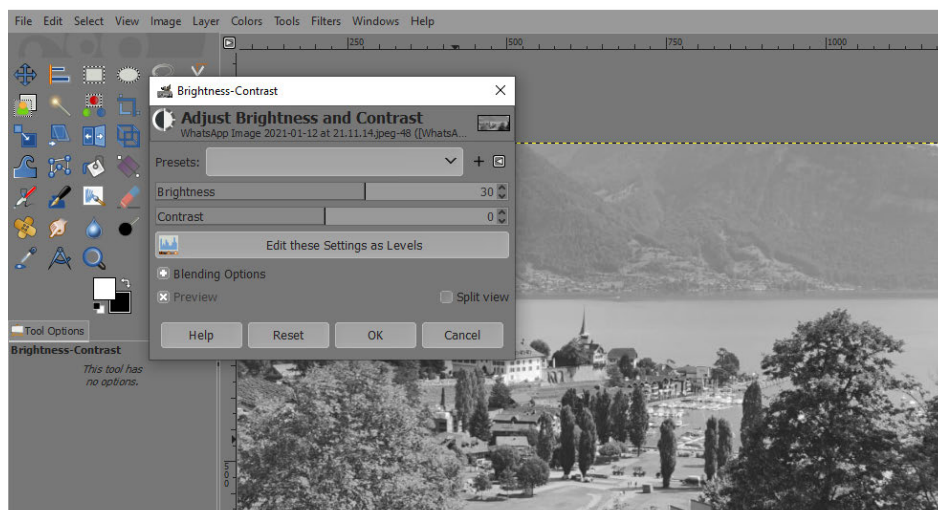
Step 1 : Open your image.



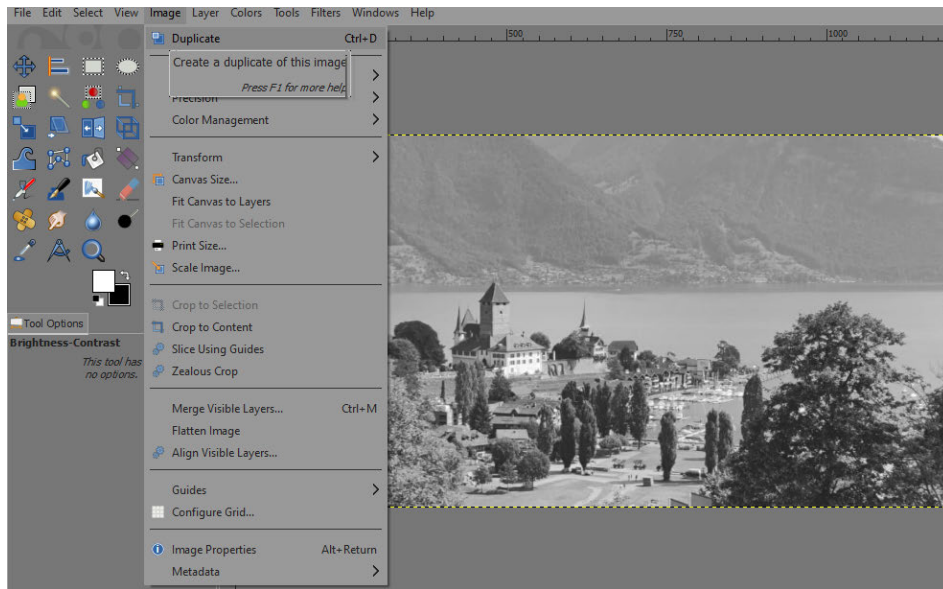
Step 2: Click the Colors menu -> Desaturate. In the next screen, choose Luminosity and click OK.



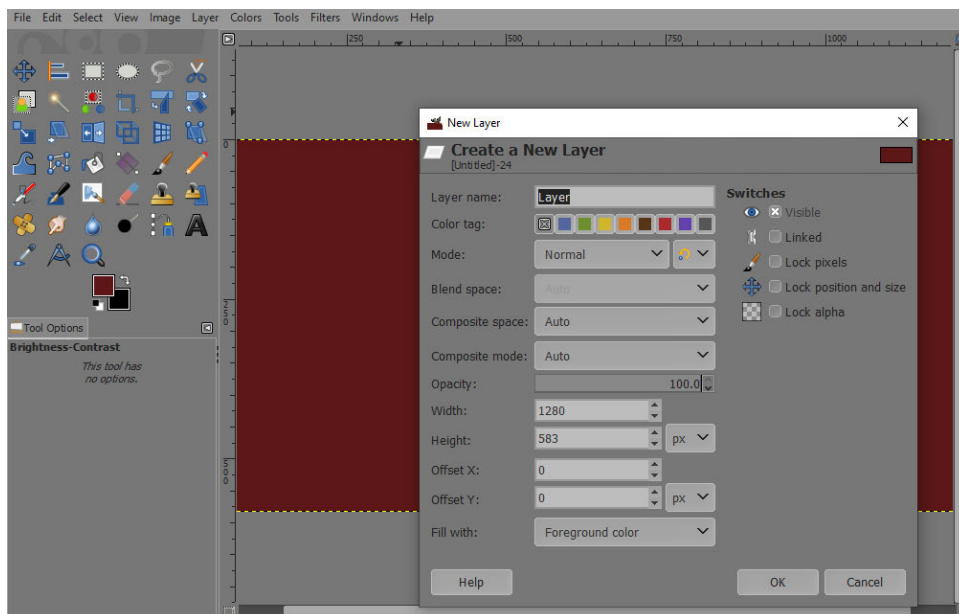
Step 3: Click Colors -> Brightness-Contrast->Set the Brightness to +30.



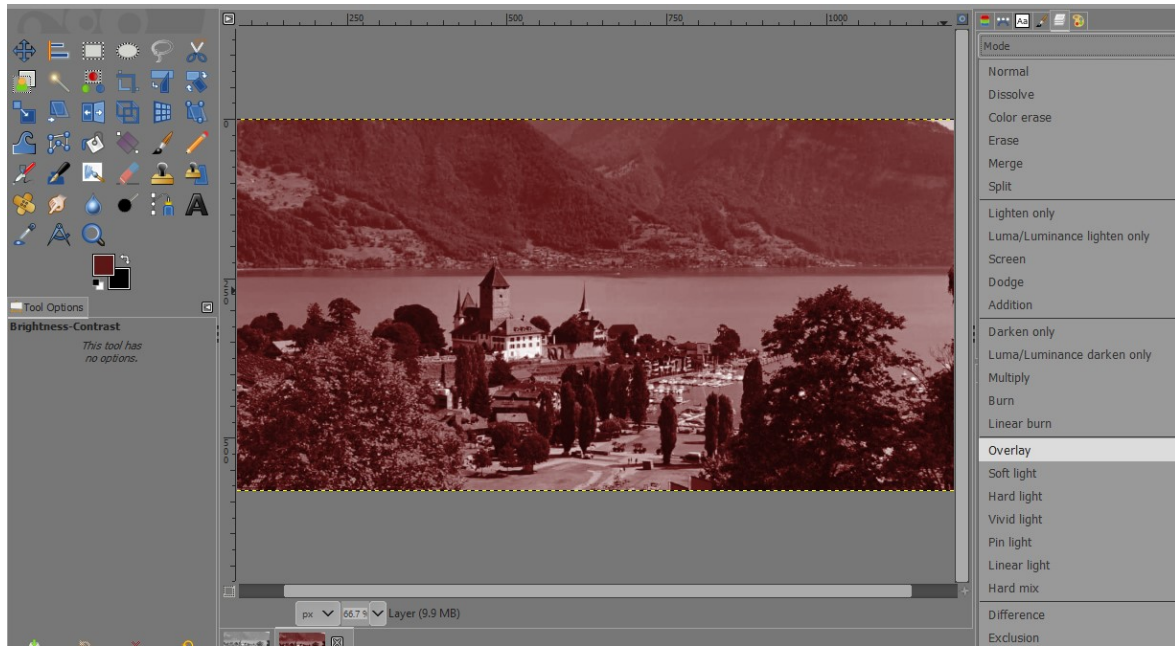
Step 4: Click on image->Duplicate and create duplicate of your layer.



Step 5: Select the foreground colour. Click on Layer Menu-> click 'New Layer' and fill with foreground colour.



Step 6: In the Layers Palette, click the top Mode: drop down and select Overlay.



Exercise Something To Know:-

A. Multiple Choice Questions:

1. _____ tool helps you to add a new layer to the image which is identical copy of the active layer.
 - a. Duplicate Layer
 - b. Delete Layer
 - c. Merge Layer
 - d. None of these

2. What is the shortcut key combination in GIMP to rotate an image?
 - a. Shift+T
 - b. Shift+R
 - c. Shift+F
 - d. Shift+C

3. Which of the following is GIMP's native format ?
 - a. xcf
 - b. tiff
 - c. png
 - d. jpeg

4. The image loses some of its quality by being _____.
 - a. Merged
 - b. Renamed

- c. Layered
- d. Scaled

5. GPL refers to....

- a. General Private license
- b. Great Public License
- c. General Public Limited
- d. General Public License

B. State True(T) / False(F)

1. The Flip tool is used to rotate the image in the other direction to create the image.
2. The Smudge tool uses the current brush to smudge colors on the active layer or a selection.
3. An image cannot be rotated in GIMP.
4. Layers are the transparent sheets one on top of the other.
5. An image can be flipped only horizontally not vertically.

C. Answer the following questions:

1. Mention some features of GIMP.
2. Which tool is used to align the objects placed on different layers?
3. Write down the steps for Tone Mapping in GIMP?
4. What is the function of smudge tool?
5. Identify the tools used for following purpose.
 - (i) To create the mirror image
 - (ii) To align the layers with different objects
 - (iii) To resize the layer/image

SOMETHING TO DO:

Here are some ideas

- ❖ Take any image and change its background color
- ❖ Take any image with red eye and remove red eye effect.
- ❖ Take any image of Vidyalaya activity and convert it into B& W.

6. Information Technology



- 6.1 E-Learning
- 6.2 E-Governance
- 6.3 E-Commerce
- 6.4 Social Networking

Introduction

Information technologies have brought a fundamental change in the society, driving it forward from the industrial age to the networked era. In our world, global information networks are vital infrastructure, but in what ways has this changed human relations? The Internet changed education system, Government system, healthcare system, and even the ways in which we interact with our loved ones—it has become one of the key drivers of social evolution.

6.1 E-Learning



Fig. 6.1: E-Learning

E-learning referred to as online learning or electronic learning, is the acquisition of knowledge which takes place through electronic technologies and media.

E-learning provides online resources for studying.
E-learning can be done 24*7.



Fig 6.2 (a) E- learning process

Video lecture can be recorded and used later. Online classes can be conducted by using various online tools e.g. Google Meet, Microsoft Team etc.

6.2 E-Governance



Fig. 6.3: E-Governance

E-governance is understood as the use of Information and Communication Technology (ICT) at all the levels of the Government in order to provide services to the citizens, interaction with various enterprises and exchange of information between different parts of the Government in a speedy, convenient, efficient and transparent manner.

e-governance is implemented by countries across the world. For efficient development of a country e-governance is needed.

Through e-governance, government services are provided to citizens and businesses in a convenient, efficient and transparent manner. E-Governance services like Digital India initiative, National Portal of India, Prime Minister of India portal, Aadhar, filing and payment of taxes online, digital land management systems, Common Entrance Test etc.

Four major types of interactions of E-Governance:

1. Government to Government (G2G) means information is exchanged within the government.

2. Government to Citizen (G2C) means the citizens have a platform through which they can interact with the government and get access to the variety of public services offered by the Government.
3. Government to Businesses (G2B) means businesses are able to interact with the government seamlessly with respect to the services of the government offered to businesses.
4. Government to Employees (G2E) means interaction between the government and its employees occurs in an efficient and speedy manner.

The following are some e-governance initiatives:

- Digital India was launched in 2015 to empower the country digitally. Its main components are:
 - Developing a secure and stable digital infrastructure
 - Delivering government services digitally
 - Achieving universal digital literacy
- Aadhar is a unique identification number issued by UIDAI that serves as a proof of identity and address on the basis of biometric data. It is used to provide many free services to the society. One can e-sign documents using Aadhar.
- mygov.in is a national citizen engagement platform where people can share ideas and be involved with matters of policy and governance.
- UMANG stands for Unified Mobile Application which provides access to central and state government services including Aadhar, Digital Locker, PAN, Employee Provident Fund services etc.
- Digital Locker is used to store digitally important documents like mark sheets, PAN, Aadhar, and degree certificates etc.
- Computerization of Land Records ensures that landowners get digital and updated copies of documents relating to their property.

In addition to this, State level e-governance initiatives include:

- E-Seva (Andhra Pradesh) facilitates payment of utility bills, issuance of certificates, licenses and permits.
- Khajane Project (Karnataka) digitalized the treasury system of the state.
- Lokvani Project in UP is a single-window solution for various services for the peoples like Land records, Grievances etc.

E-Governance portal

The Indian e-governance portal is <https://nceg.gov.in>. On this portal, one can get comprehensive information regarding the National Conference on E-governance and reports on earlier conferences.

In addition to above, the portal provides links to the following important pages:

- Digital India
- National Portal of India: This portal provides the various Government services
- PM India Website: It provides information relating to the Prime Minister's Office.
- United Nations e-governance website.

6.3 E-Commerce

E-commerce (Electronic commerce) is used to buy and sell goods and transmitting of funds over the Internet. These business transactions occur as business-to-business (B2B), business-to-consumer (B2C), consumer-to-consumer or consumer-to-business. The term electronic-tail is also sometimes used in reference to the transactional processes that make up online retail shopping.



Fig. 6.4: E-Commerce

Top E-commerce websites are Amazon, Flipkart, Snapdeal, Jabong, Shopclues etc.

Advantages of e-commerce :

Benefits of e-commerce include its round-the-clock availability, the speed of access, the wide availability of goods and services for the consumer, easy accessibility and international reach.

1. **Availability** : Besides outages or scheduled maintenance, e-commerce sites are available 24x7, allowing visitors to browse and shop at any time.
2. **Speed of access** : While shoppers in a physical store can be slowed by crowds, e-commerce sites run quickly, which is determined by computer and bandwidth considerations on both consumer devices and e-commerce sites. An e-commerce transaction takes only a few clicks and sometimes less than five minutes.
3. **Lower cost** : Pure play e-commerce businesses avoid the cost associated with physical stores, such as rent, inventory and cashiers, although they may incur shipping and warehouse costs.
4. **Personalization and product recommendations**: E-commerce sites can track visitors' browse, search and purchase history. They use this data to present useful and personalized product recommendations and obtain valuable insights about target markets. Examples include the sections of Amazon product pages labelled "Frequently bought together" and "Customers who viewed this item also viewed."

Disadvantages of e-commerce

1. **Limited customer service** : If a customer has a question or issue in a physical store, he or she can see a clerk, cashier or store manager for help.
2. **Not being able to touch or see** : While images on a webpage can provide a good sense about a product, it's different from experiencing it "directly," such as sound of a speakers, picture quality of a T.V or trying on a dress.
3. **Wait time** : If a customer sees an item that he or she likes in a store, the customer pays for it and then goes home with it. There may be delay in the product to be shipped to the customer's address.
4. **Security** : Skilled hackers can create authentic-looking websites that claim to sell well-known products store.

6.4 Social Networking

Social networking means like-minded individuals to be in touch with each other using websites and web-based applications. Facebook, Twitter, Instagram and LinkedIn are examples of social networking sites.



Fig. 6.5: Social networking

If you are involving in social networking, it means you're using social media sites, also known as social networks, to connect to others. Most popular social Networking websites are Facebook, Twitter, Instagram, Snapchat, LinkedIn, and Pinterest.

Facebook Social network sited is one of good social network site in which you may know some other people who use the site and add them as friends. As you use more social platforms, it increases your network for sharing your ideas or views.



Fig. 6.6: Social networking websites

Advantages and Disadvantages of Social Networking

There are positives and negative aspects of latest form of social networking. You can use social websites like Facebook to launch a new business, sell your products or services, and extend the reach of your brand. These platforms can also become an inescapable place where peer pressure can push people towards choices they would never make without its influence.

Advantages of social Networking

1. Networking without border

No boundary of the social media. Social networking sites are enabling everyone to connect no matter which country they belong to.

2. Instant News and Information

On Social networking, communication may be one-to-many instantly. The news will be available on modern social networking sites like Facebook, Twitter.

3. Great marketing channel for Business

Social networking sites provide good marketing channels for doing the business. The various Artificial techniques are used on social networking sites platforms for Marketing.

4. Awareness and Activism

Social Networking sites aware us about events around the world. Social networking sites play a very important role in such revolutions and events.

5. Exchange of ideas and Collaboration

Social networking site like Facebook has collaboration features like Group and Document sharing. Social networking sites are very useful to collect feedback and comments on various ideas.

Disadvantages of Social Networking

1. Addiction

The irresistible behavior developed due to social networking sites like Facebook, Instagram, YouTube, etc. leads to negative effects. Social networking addicts constantly check out people's profiles for hours and hours.

2. Mental Illness

Social networking sites are increasing risk of mental health problems like depression, anxiety, and loneliness. Spending so much time by scrolling through social media can result in symptoms of anxiety and/or depression. Teenagers' mental health is often negatively affected by this culture of comparison as well.

3. Frauds and Scams

It is one of the challenges for social media companies. There are No. of fake users accounts on various social networking sites including Facebook, Instagram, and Twitter.

4. Misleading Information

It is the most challenging problem for social media companies. Fake Information and misleading News can go viral in few seconds on social media platforms.

5. Privacy Issues

Your activities on social media can help people or companies know who you are or what you are searching etc. By your sharing image history or your profile privacy issues may also come.

Exercise Something to know

A. Answer the following questions.

1. What is E-learning? Give an example of E-Learning.
2. What is E-Governance? Give an example of service provided by E-Governance.
3. What is E-Commerce? Write names of two E-commerce sites.
4. What is Social Networking? Give some examples of social networking sites.
5. Write some advantages of E-Learning.

B. Fill in the blanks:

1. _____ is the fastest and easiest way of learning in the present mode of education.
2. _____ in India has steadily evolved from computerization of Government Departments.
3. _____ is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the internet.
4. Social networking services can help young people develop their _____.
5. <https://epathshala.nic.in/> (NCERT) is an example of _____ website.

C. Match the Following:

1. E-Learning website	a) www.facebook.com
2. E-Commerce website	b) www.cybercrime.gov.in
3. E-Governance website	c) www.diksha.gov.in
4. Social Networking website	d) www.flipkart.com

D. Select the correct answer for each question :

1. E-learning provides all the following benefits EXCEPT:

- (a) bringing the training to students.
- (b) replacing conventional learning experiences.
- (c) facilitating just-in-time skill development.
- (d) being more cost effective.

2. The facilitator for National e-Governance Programme (NeGP) in India is:

- (a) Department of Electronics and Information Technology
- (b) Education Ministry
- (c) Department of E-Governance
- (d) Department of Defense.

3. Which of the following describes E-commerce?

- (a) Doing Business
- (b) Doing Business Electronically
- (c) Sale of Goods
- (d) All of the above

4. Which Social networks are organized primarily _____.

- (a) Brands
- (b) people
- (c) discussion
- (d) Interests

D. State True or False

- 1. Online evaluation of answer sheets is possible.
- 2. Online fraud does not happen in online shopping.
- 3. E-Governance sites provide direct services to people.
- 4. Social networking may give false information also.

SOMETHING TO DO

1. Go and explore the following sites :

<https://epathshala.nic.in/>

<https://diksha.gov.in/>

2. Participate in any quiz on E-Governance site : <https://www.mygov.in/>

APPENDIX
ANSWERS OF EXERCISE
EXERCISE 1.1

A. Answer the following questions.

1. What do you mean by a database?

Ans. A database is a storage area to save a huge amount of interrelated data.

2. What is a DBMS and why is it required?

Ans. A Database Management System is a software used to create, edit and delete data from a database. It is required to maintain the database in such a manner that it will always give accurate information.

3. What is a table in a database?

A table is the intersection of rows and columns and it is used to store the data.

4. Give the name of any 1 real world example in which you have learnt about databases.

Bank, School, University, etc.(any one)

5. What is a primary key?

A primary key is a column of a table which has unique values and it is used to identify every record differently.

B. Fill in the blanks:-

1. Database 2. Database Management System 3. Table 4. Varchar 5. Primary key

C. State True / False:-

1. False 2. False 3. False 4. True 5. False

EXERCISE 1.2

A. Answer the following questions.

1. What do you mean by wizard?

Ans. A wizard is a step-by-step guide help of the procedure of creation of a database object like a table, query, etc.

2. What is the importance of a wizard?

Ans. A wizard helps the user to understand the procedure of how to successfully create a table or a query.

3. Can we assign a primary key to a field during the creation of a table using wizard?

Ans. Yes.

4. What do you mean by a query?

Ans. A query is a request for some information from the database.

5. What is the use of query in a database?

Ans. A query is used to find some specific information which is required instead of data from the whole table.

B. Fill in the blanks

1. Wizard 2. Query 3. Sort 4. Field 5. Alias

C. State True / False:-

1. True 2. False 3. True 4. True 5. False

Chapter 2.1

A. Answer the following questions:-

1. What do you mean by a keyword?

A keyword is a pre-defined reserved word in a programming language which has fixed function and cannot be changed. E.g. if, else, etc.

2. What is a variable? Why is it needed in a program?

A variable is an identifier which is used to store some value temporarily for the program time. It is needed in a program to store and access some values during the program execution.

3. Write the use of a flowchart.

A flowchart is used to represent the execution steps of a program pictorially and diagrammatically so that it is easy to understand the execution flow of the program.

4. What is a data type and what is its importance in programming?

A data type is used to tell what kind of data will be used in a variable like integer, float, string, etc.

5. What is the meaning of sequential programming?

Sequential programming is defined as making such programs that

Copyright Number:- L-100563/2021 Registered With:- KVS Delhi Region

involve the execution of commands in a specific sequence one by one
i.e. one after the previous one and so on.

B. Fill in the blanks:-

1. Keyword
2. Relational
3. Algorithm
4. Arithmetical
5. Flowchart

C. Match the following:-

1. (b)
2. (c)
3. (a)
4. (e)
5. (d)

D. Predict/Select the correct OUTPUT for each question:-

1. (C)
2. (A)
3. (B)
4. (B)
5. (B)

E. State True/False:-

1. True
2. False
3. True
4. False
5. False

Chapter 3.1**A. Answer the following questions:-**

1. What do you mean by the logic of a problem or a program?

Ans. Logic of a program is the method or solution of the problem or a program by which it can be solved.

2. What is a logical operator?

Ans. A logical operator is a type of operator in python which is used to check one or more conditions for their Trueness or Fallacy. Types of logical operators in python are not, and & or.

3. Write the function of 'not' logical operator in python.

Ans. 'not' is a unary logical operator that works on a single condition and gives the reverse of the value i.e. it gives True when result comes False and vice-versa.

4. What is the difference between 'and' & 'or' logical operator?

Ans. 'and' logical operator is used to give the final result 'True' only when both the conditions are True but 'or' operator is used to give final result 'true' if any one of the two conditions is True.

B. Fill in the blanks:-

1. not
2. Logical
3. Relational
4. 'or'
5. Two(02)

C. Predict/Select the correct OUTPUT for each question:-

1. (A) 2. (A) 3. (A) 4. (A) 5. (A)

D. State True / False:-

1. False 2. False 3. True 4. False 5. False

Chapter 3.2

A. Answer the following questions:-

1. Write the use of range() function with the help of an example.

Ans. 'range()' is a function that is used to generate a sequence of values from a lower-limit to one less than upper-limit number. It only works on integers. E.g. range(1,5) will give (1, 2, 3, 4) output.

2. What do you mean by lower-limit and upper-limit in a range() function?

Ans. Lower-limit is the value from which a range() function starts generating numbers. Upper-limit is one less than the value up to which a range() function will generate the numbers. E.g. in range(1,5), lower-limit is 1 and upper-limit is 5.

3. What is a skip value in range() function? Write one example of it.

Ans. Skip value is the step or increment value which is to be added in the previous value to generate the next value.

E.g. In range(1, 10, 2) statement, 2 is the skip value which will be added to every previous value and give the following result (1, 3, 5, 7, 9).

4. Can range() function print the following output? If yes, then write its command using range() function. 10 9 8 7 6 5 4 3 2 1

Ans. Yes. range(10, 0, -1).

B. Fill in the blanks:-

1. Skip Value 2. Upper-limit value. 3. Lower-limit value. 4. 1 4 7.

C. Predict/Select the correct OUTPUT for each question:-

1. (A) 2. (B) 3. (C) 4. (A) 5. (A)

D. State True / False:-

1. True 2. True 3. False 4. False 5. False

Chapter 4.1**A. Answer the following questions:-**

1. What is the meaning of a loop?

Ans. A loop can be defined as a cycle of execution of some statements again and again up to a specific number of times.

2. Why is a loop is used in programming?

Ans. A loop is used in programming to solve those problems that involve execution of the same commands again and again up to a specific number of times.

3. Which loop is used in python?

Ans. 'for' loop is used in python programming language.

B. Predict/Select the correct OUTPUT for each question:-

1. (B) 2. (C) 3. (B) 4. (C) 5. (C)

C. State True / False:-

1. False 2. True 3. True 4. False 5. False

CHAPTER 5**A. Multiple Choice Questions:**

1. Duplicate Layer
2. Shift+R
3. xcf
4. Scaled
5. General Public License

B. State True(T) / False(F)

1. The Flip tool is used to rotate the image in the other direction to create the image. True
2. The Smudge tool uses the current brush to smudge colors on the active layer or a selection. True
3. An image cannot be rotated in GIMP. False
4. Layers are the transparent sheets one on top of the other. True

5. An image can be flipped only horizontally not vertically. False

C. Answer the following questions:

1. Mention some features of GIMP.

Answer :

- It is Open and Free software.
- It supports different file formats such as gif, jpeg, tiff etc.
- It works with different operating systems such as Linux, Mac OS and Microsoft Windows.
- It is use for used for image manipulation (retouching) and image editing.
- GIMP provides different tools for image editing.
- GIMP paintbrush tool is use to draw images easily.
- It is a memory efficient graphic tool.
- Combining different images in GIMP to create animation.
- There are several ways of creating colors in GIMP.

2. Which tool is used to align the objects placed on different layers?

Answer: Align tool

3. Write down the steps for Tone Mapping in GIMP?

Answer:

Step 1: Click on File->click Open-> Select image.

Step 2: Click on Colors->click on Tone Mapping.

4. What is the function of smudge tool?

Answer: The Smudge tool uses the current brush to smudge colours on the active layer or a selection.

5. Identify the tools used for following purpose.

(iv) To create the mirror image

(v) To align the layers with different objects

(vi) To resize the layer/image

- Answer : (i) To create the mirror image : Flip Tool
(ii) To align the layers with different objects : Align Tool
(iii) To resize the layer/image : Scale Tool

Chapter 6

A:

1. Ans. E-Learning is learning utilizing electronic technologies to access educational curriculum outside a traditional classroom. In most cases, it refers to a course, program or degree delivered completely online.

e.g. <https://epathshala.nic.in/> & <https://diksha.gov.in/>

2. Ans.

Electronic governance or e-governance can be defined as the usage of Information and Communication Technology (ICT) by the government to provide and facilitate government services, exchange of information, communication transactions and integration of various stand-alone systems and services.

e.g. <https://www.meity.gov.in/> & <https://www.mygov.in/>

3. E-commerce (electronic commerce) is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the internet. These business transactions occur as business-to-business (B2B), business-to-consumer (B2C), consumer-to-consumer or consumer-to-business.

e.g. <https://www.amazon.in/> & <https://www.flipkart.com/>

4. Ans. Social networking is the use of Internet-based social media sites to stay connected with friends, family, colleagues, customers, or clients. Social networking can have a social purpose, a business purpose, or both, through sites such as Facebook, Twitter, LinkedIn, and Instagram, among others.

<https://www.instagram.com/> & <https://www.facebook.com/>

5. Ans. Advantages of E-Learning
(i) Online learning is self-paced

- (ii) E-Learning is student-centered
- (iii) E-Learning is cost-effective
- (iv) E-Learning is environment friendly
- (v) In E-Learning there is no need for textbooks
- (vi) Online learning is time-efficient

B. Fill in the Blanks

1. E-Learning
2. E-Governance
3. E-Commerce
4. Interests
5. E-Learning

C. Match the Following.

- 1 ---- c
- 2 ---- d
- 3 ---- b
- 4 ---- a

D. Select the correct answer for each question.

1. B
2. A
3. B
4. D

E. State True or False

1. True
2. False
3. True
4. True



तत् त्वं पूषन् अपावृणु
केन्द्रीय विद्यालय संगठन

Kendriya Vidyalaya Sangathan (Delhi Region)
Old JNU Campus, Baba Gangnath Marg,
Near Ber Sarai (New Mehrauli Road),
New Delhi -110067