CCA - 101 : Fundamentals of IT & Programming

Assignment - 1

Q.1: what are the four fundamental parts of computer? Explain it with the help of diagram.

A computer is a fast system that is organized to accept, store and process data and produce output results under the direction of a stored program of instructions.

Component of a computer system are the primary elements which make the functioning of an electronic device smooth and faster.

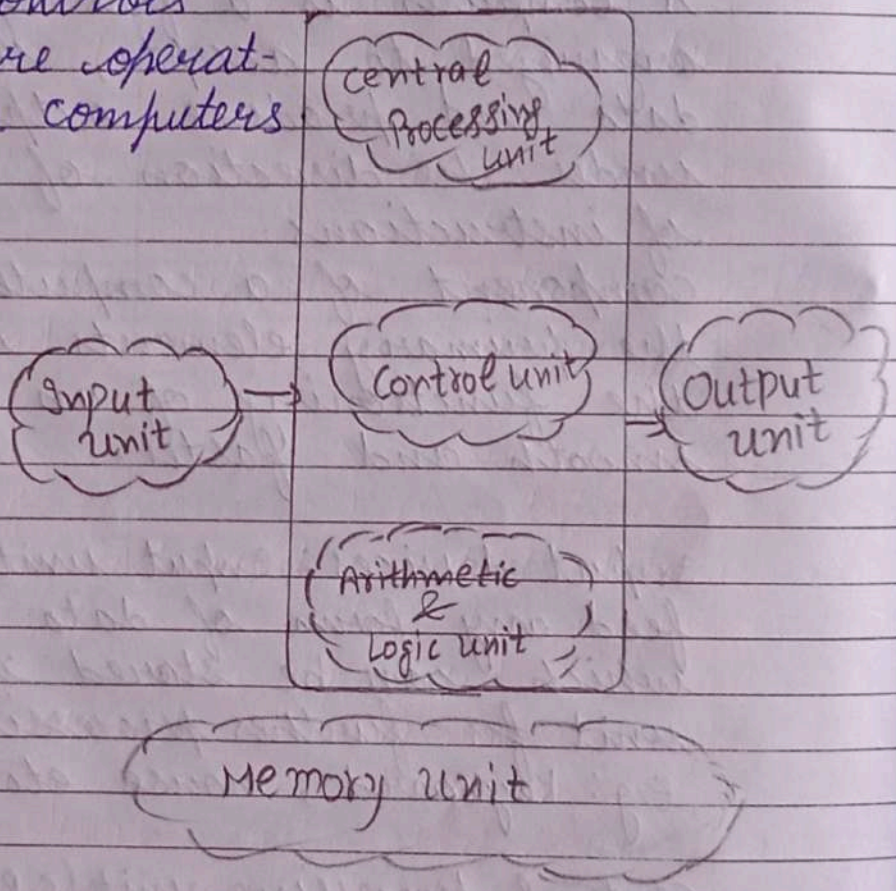
Input devices: Input units is used to feed any form of data to the computer which can be stored in the memory unit for further processing.

E.g: Keyboard, mouse etc.

Central processing unit (CPU):- CPU is the major component which interprets and executes software instructions. The CPU has three components which are control unit, Arithmetic and logic unit (ALU) and memory unit.

(i) Arithmetic and logic unit :
The ALU is a part of the CPU where various computing functions are performed on data.

(ii) control unit : The control unit controls the flow of data between the CPU, memory and I/O devices.
It also controls the entire operation of a computers.



Output unit : An output units is any hardware component that conveys information to users in an understable form.
Example : Monitor, Printer etc.

Memory unit : A memory unit is the collection of storage units or devices together. The memory unit stores the binary information in the form of bits.
Example : Hard disk

Q.2 Discuss about the classification of computers based on size and capacity.

Ans. Based on size and capacity, computers are classified as follows:
- Supes computers
- Mainframe computers
- Mini computers
- Micro computers

Q.3 What is the meaning of computers generation ? How many computers generations are defined ? What technologies were / are used ?

Ans. In the field of electronics and technology, generation is computer technology. This terms refers to the change that a computer goes through. Earlier, the term generation was used to differentiate between different hard ware technologies.

The Genegeration of computer evolution is generally divided into 5 catagories.

1) First Generation (1940-1956)
(Evolving Hardware => Vacuum-Tube based)
2) Second Generation (1956-1963)
(Evolving Hardware => Transistor based)
3) Third Generation (1963-1971)
(Evolving Hardware => Integrated circuit)
4) Fourth Generation (1971-Present)
(Evolving Hardware => Microprocessor based)
5) Fifth Generation (Present-Beyond)
(Evolving Hardware => Artificial intelligence)

Q.4 Differentiate between Volatile & Non-volatile memories.

Ans. Below are the difference between volatile memory and non-volatile memory.

S.No	Volatile Memory	Non-Volatile Memory
1.	It is the type of memory which data is lost as it is powered-off.	It is a type of memory in which data remains stored even if it is powered-off.
2.	Memory are stored temporarily.	Memory are stored permanent.
3.	It is faster than non-volatile memory.	It is slower than volatile memory.
4.	In volatile memory, process can read and write.	In non-volatile memory process can only read.
5.	Volatile memory is a more costly per unit	Non-volatile memory is a less costly per

S.No	Volatile Memory	Non-Volatile Memory
	size.	Unit size.
6.	Example: RAM (Random Access Memory)	Example: ROM (Read only Memory)

Q.5 Distinguish among system software, application software and open source software of the basis of their features.

Ans. The main difference between system software and application software is that software is used for operating computer hardware is used according to user applications.

System Software	Application Software	open-source Software
• It is a type of software that designed to run a computer's hardware and application programs. Eg:- Windows, macOS, Android and iOS etc.	• It is software created for a specific purpose used by end users. It can be called an application or simply an app. Eg: word processor, accounting application etc.	• It is a software in which the source code is also available along with the software. Eg: Android, Linux, Apache Server, Ionic, My SQL, etc.
• Features of system software	• Features of Application software	• Features of open source software

System software	Application Software	Open-source software
=> It is written in a low-level language.	=> It is written in a high-level language.	=> The results are of quite high quality.
=> The size of system software is small	=> It requires more storage space than system software.	=> It is more secure.
=> It is complex to understand.	=> It is easy to build in comparison to system software.	=> User can easily change the software acc. to requirement.
=> It is present near hardware components		=> Long term use.
		=> Transparency

Q.6 a) Create a file in MS-word to insert a program about yourself and save it with file name "yourself". Describe all steps involved in it.

Ans. To create a new document:

- click the microsoft office button / file tab.

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- Select new. The new document dialog box appears.
- Select blank document. It will be highlighted by default.
- A new blank document appears in the word window.
- Now you can create document by inserting text.
- Finally save document.

To save document using save As command:

- Click the microsoft office button / file tab.
- Select save As - word document.
- Select the location on my computer to save my file in PC.
- Enter a name => Karamvir Kaur for the document.
- click the save button.

b) write steps regarding followings

> To change the font style

- Select the text you want to modify.
- click on font style box on the home tab the font style drop-down menu appears.
- move your cursor over the various font style.
- Left click the font style you want to

use.
- then font style will change in the document.

> To change the font size

- click on font size box in the font group on the home tabe. the font size drop-down menu appears.
- Move cursor over the various font sizes.
- left-click on font size you want to use
- then it will change font size in our document.
- If we change the size increase and delrease so we using increase font size and decrease font size commands
- select the text you want to modify.
- click on inc. / dec. font size commonds in font group on the home tab.
- then font size will change (inc / dec.) in the document.

> To change the font colour

- click the text you want to modify
- click on the font colour box on the home tab. the font colour menu appears.

- Move the your cursor over the various font colors.
- Left-click the font color you want to use.
- Then font color will change in the document.

> To highlight (in yellow) the line that reads "need to get IMS's address"

- Select the text
- click on the text highlight colour in font group on the home tab.
- yellow colour will appears
- Move your cursor over the yellow colors.
- click on colour to you use.
- then text highlight colour will change in the document.
- After this process press ctrl+s key on keyboard

Q.7 create a file in MS-word for the following document and save it with file name 'ms-word. Describe all steps involved in it'.

Ans. MS word

MS word is a widely used commercial word processor developed by microsoft.

MS word is application software, which is capable of
- creating
- editing
- saving, and
- printing and type of document

Answer -
- click the start icon.
- then point to all programs.
- then click microsoft office and
- then click microsoft word.

To create New document
* click Microsoft office button
* Select New. The new document dialog box appears
* Select blank document. It will be highlighted by default.
* A new blank document appers iin the word window.
* Now can create document by inserting text
* Finally save document

* Select save As - word document
* select the location where you want to save the document
* Enter a name "ms-word" for the document.

* click the Save button.

Q.8 create a file in MS-word for the following document and save it with file name 'equation describe all step involved in it'.

*Equations

$$X_2 + Y_5 = 30$$
$$Z^3 + Q^4 = 50$$
$$A_2 + B^8 = X_2 + Y^8$$

Ans. Step 1:- click the start icon.
Step 2:- Then point to all program.
Step 3:- Then click microsoft office and.
Step 4:- Then click microsoft word.
Step 5:- click the microsoft office button/ file tab.
Step 6:- Select New. the New document dialog box appears.
Step 7:- Select Blank document.
Step 8:- Now we create a document and write some eq^{n}s.

$$X_2 + Y_5 = 30$$
$$Z^3 + Q^4 = 50$$
$$A_2 + B^8 = X_2 + Y^8$$

• we write this equation with the help of superscript command on the home tab.

- After create documents by inserting text
- finally save document.

Step 9:- Select Save As - word document
Step 10:- Select the location where we want to save the document
Step 11:- Enter a name 'equations' for the document.
Step 12:- click the Save button

Q.9 create a file in MS-word that convert exisiting highlight text to table as shown below and save its as file name 'text-to-table'. Describe all steps involved in it.

Select the text you want to covert.

Selet the Insert tab.

click on Table Command A dialog box appears

Click on convert Text to table, a new dialog box appears here set number of columns.

Click on OK finally Selected text convert in a table

Select the text you want to convert.	Select the insert tab.
click on table command. A dialog box appears.	click on convert text to table, a new dialog box
here set number of columns.	click Ok finally selected text convert into a table.

Ans. To convert existing text to a table:-

- Select the text you want to convert.
- Select the Insert tab.
- click on Table command. A dialog box appears.
- click on convert Text to Table, a new dialog box appears.
- here set number of columns.
- click on OK.
- Finally selected text convert in a table.
- Then press Ctrl+S key on keyboard for saving document and name "text-to-table"

Q.10 create a file in MS-word to insert a table in document. Describe all steps involved in it.

Ans. Following are the basic steps:

Step 1:- open a blank word document.
Step 2:- In the top ribbon, press insert
Step 3:- Click on the table button
Step 4:- either use the diagram to select the number of columns and rows you need.
Step 5:- The blank table will now appears on the page.
Step 6:- click on OK.
Step 7:- Finally table is insert

Q.12 calculate the following things of a range (C2:C11) of data in the worksheet created in question no. 10

→ the sum of the marks using Auto sum in a range of cells (C2:C11)

C2 = 60, C3 = 70, C4 = 80, C5 = 90, C6 = 40
C7 = 50, C8 = 44, C9 = 77, C10 = 88, C11 = 55
sum of marks = 60 + 70 + 80 + 90 + 40 + 50 + 77 + 44 + 88 + 55 = 654

→ average of the marks in a range of cells (C2:C11)

Ans. 604.2

→ highest marks in a range of cells (C2:C11)

Ans. 90

→ minimum marks in a range of cells (C2:C11)

Ans. 44

Q.13 a) Describe various steps involved in the following:

a) To modify column width of a worksheet
b) To modify the row height of the worksheet
c) To delete rows and columns of a worksheet

b) Describe following teams in the worksheet
- Absolute reference and relative reference in formula
- cell address

Ans. a) To modify column width of a worksheet:

Step 1: Select a column or a range of columns.
Step 2: on the home tab, select format > column width (or column height)
Step 3: Type the column width and select OK.

b) To modify Row height of a worksheet:
Step 1: Select a row and a range of rows
Step 2: on home tab, select format > row height
Step 3: Type the row width and select OK.

c) To delete row or column:
Step 1: select the row or column
Step 2: Right-click your mouse, and a menu appears.
Step 3: select delete column or delete

rows.

b) Absolute References and Relative Referances

Ans. Absolute Referance:

It is the cell referance in which the row and column are made constant by adding the dollar ($) sign before column name and row number.

Relative Refesance:

It is the default cell reference in excel. It is simply the combination of column name and row number without any dollar ($) sign.

cell address:

cell reference or cell address is a combination of a column letter and a row number that identifies a cell on a worksheet.

Q.14 a) what tools are available to customize our power point presentation?

Ans. Looking for the best presentation tools to help you get your presentation to the next level. which are given below:-

1. Templates and Themes
2. Slide layouts
3. Fonts
4. Colous themes
5. Shapes
6. Icons

7. Charts and graphs
8. Animations
9. Maps and tables
10. Flow and icon charts
11. Transition
12. Audio and video

b) write the steps for following action for creating of power point presentation

- open a blank presentation
- Save the presentation as lab1.pptx
- Add a title to the first slide: the name of your college
- Type your first name and last names in the subtitle section
- Add a newslide which has a title and content.

Ans. • To open a blank presentation:
Step 1: Select the file tab to go to backstage view
Step 2: Select open. Clicking open.
Step 3: In the left side, select new.
Step 4: Select an option.
Step 5: The open dialog box will appear.

• To Save a presentation
Step 1: Locate and select the save command on the Quick access toolbar
Step 2: If you're saving the file for first

time, the same as pane will appear in backstage view.

Step 3: Now then need to choose where to save the file and give it a Lab 1.pptx

- Add title to 1st slide: the name of your collage.

Step 1: Please click on title
step 2: Add titlename of collage or school
e.g. add Meritorious School Ghabdan Sangrur
Step 3: If necessary, press [Return] or [Entre] to move to a new line.
Step 4: click anywhere on the slide outline of the placeholder to deselect it.

- Add your 1st name and last name in the subtitle section.

Step 1: Please click on subtitles section
Step 2: Type the name - Karamvir Kaur and last name - Kaur Gharu
Step 3: If necessary, press [Return] or [Enter] to move a new line.
Step 4: click anywhere on the slide outside to placehold to deselect it.

- Add a new slide which has a title and content.

Step 1: Select the slide whose layout you will change. It can have a title
Step 2: click Home > layout
Step 3: Select title slide for a stand alone title page or select title
Step 4: Select the click to Add title for box.

Q.15 write steps for creation of a set of powerpoint slides that demostrates your skill to use the tools of powerpoint. It should include the following things
- Title slide & bullet list
- Inserting excel sheet
- clip art and text
- slide show effects

Ans.

- Title slide & bullet list

Step 1: Select the text you want to format as a list
Step 2: Click the bullets or numbering commands on the Home tab.
step 3: left-click the bullet or numbering style you want to use. It will appear in document.
Step 4: press enter key to add an item to the list

- Inserting excel sheet

Step 1: In power point, select the insert

tab & click the Insert tab
Step 2: click the object command in the text group.
Step 3: A dialog box will appear
Step 4: Locate and select the desired excel file then click Insert.

- clip art and text

Step 1: open power point
Step 2: Go to Insert > online pictures
Step 3: Select the clip art
Step 4: Insert the clip art
Step 5: edit the image
Step 6: then type in the text
Step 7: select a blank area on the drawing page.

- slide show effect:

step 1: select the slide to which you want to apply the effect
step 2: select the Animation tab.
step 3: on transition to this slide group you will see the transition effects
step 4: click the drop-down arrow to see menu of transition effects
step 5: select the desired transition effects.

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Part - 2

Q.16 What is the difference between Machine Language and High level Language?

Ans. Following are the difference b/w M.L. and H.L.L.

Machine Language	High-level Language
• It is a machine friendly language.	• It is programmer friendly language.
• It is high memory efficient.	• It is less memory efficient.
• It is tough to understand.	• It is easy to understand.
• Debugging is complex comparatively.	• Debugging is easy.
• It is complex to maintain comparatively.	• It is simple to maintain.
• It is non-portable.	• It is portable.
• It is machine dependent.	• It can run on any platform.

Q.17 Discuss about different data types of C programming language.

Ans. Following are the examples of some very common data types used in C:

- char: The most basic data type in C. It stores a single character and requires a single byte of memory in almost all compilers.
- int: As the name suggests, an int variable is used to store an integer.
- float: It is used to store decimal numbers (numbers with floating point value).
- double: It is used to store decimal numbers (numbers with floating point value but its range of values is high in comparison to float.)

Q.18 Find the output of the following expressions

a) $X = 20/5 * 2 + 30 - 5$ $= 4 \times 2 + 30 - 5 = 8 + 38 - 5$
$= 46 - 5 = 41$ Ans.

b) $Y = 30 - (40/10 + 6) + 10$ $= 30 - (4 + 6) + 10 = 30 - 10 + 10$
$= 20 + 10 = 30$ Ans.

c) $Z = 40 * 2/10 - 2 + 10$ $= 40 * 0.2 - 2 + 10 = 8 - 2 + 10$
$= 16$ Ans.

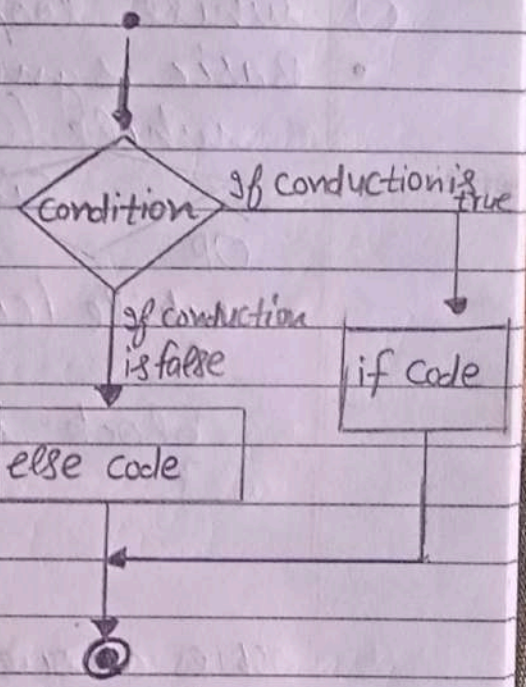
Q.19 Describe the syntax of the following statements

a) If-else statement

If statement can be followed by an optional else block of statements, which executes when the boolean expression is false.

Syntax

```
if (expression)
{
  true block of statements;
}
else
{
  else block of statements;
}
```



b) for loop

for loop is similar to while. Basic sytax of for loop is as follows:

```
for (expression 1; expression 2; expression 3)
{
Block of statements;
}
```

In the above syntax:

- expression 1 - Initializes variables
- expression 2 - conditional expression, as

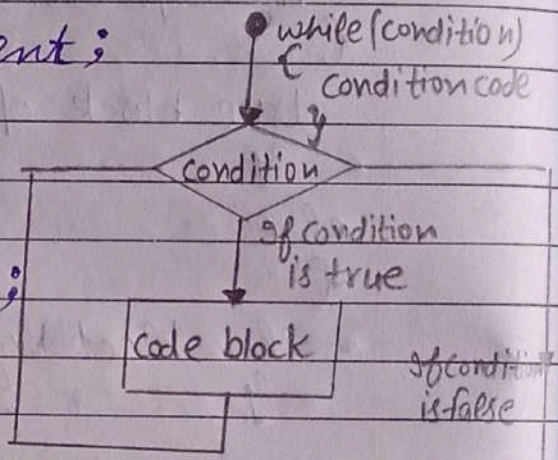
long as this condition is true, loop will keep executing.

- expression 3 - It is the modifier which will increase or decrease the value of the variable.

c) while loop

- Basic syntax of while loop is as follows:

```
while (condition)
    Single statement;
OR
while (condition)
{
block of statements;
}
```



The above code can be represented in the form of a flow diagram as shown above

d) do.. while loop

do... while is just like a while loop except that the test conduction is checked at the end loop rather than the start. This has the effect that the body of the loop are always executed at least once.

- Basic Syntax of do.. while loop is as

followings :

```
do
{
single statement
      or
Block of statement
}
while (condition);
```

This code can be represented in the form of a flow diagram as shown below