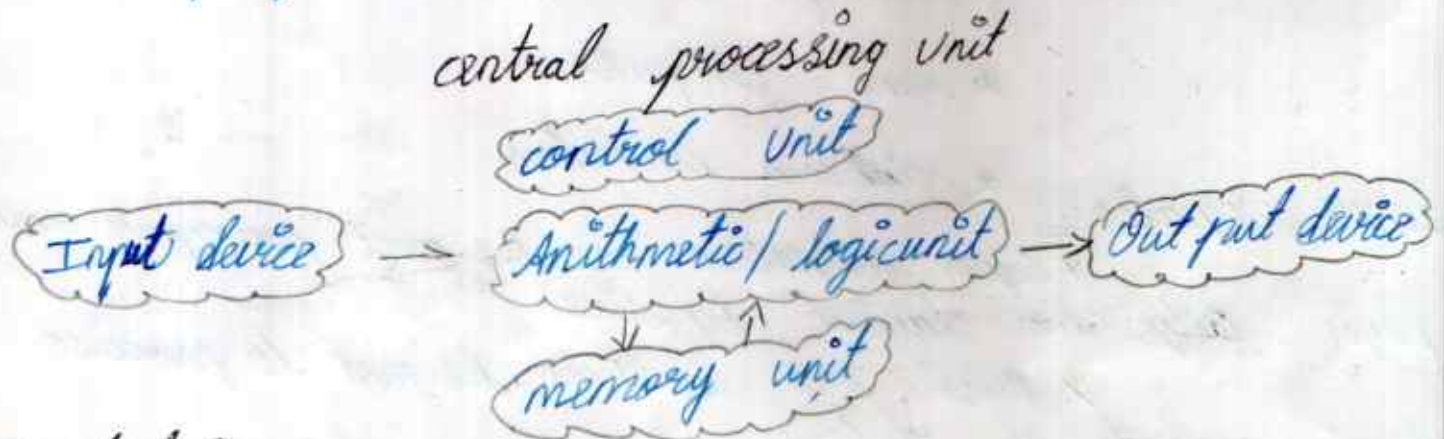


FUNDAMENTALS OF IT & PROGRAMMING

ASSIGNMENT-1

1) four fundamental parts of computer:

* A computer is a fast system that is organised to accept, store and process data and produce output results under the direction of a stored program of instruction



Input device:

* computer systems use many devices for input purpose

* Input devices include the mouse, input pen touch screen, and microphone

* Regardless of the type of device used, all one components for interpretation and communication between people and computer systems

Central processing unit (CPU)

* It is the brain of the computer without this unit computer unable to process.

Output device:

* Output device is used to show the result of the instructions

* Example: monitor, printer, Headphone, etc...

Memory Unit:

* It is the collection of storage units or device together

* The memory unit stores the binary information in the form of bits

2) Classification of computers based on size and capacity:-

* Super computers

* Main frame computers

* mini computers

* micro computers

Super computer:-

* Super computers are the most powerful and physically the largest by size

* These are systems designed to process huge amounts of data

* The fastest super computers can perform over one trillion calculation in a second

* Super computers have thousands of processors

* Example: JAGUAR, ROADRUNNER etc,

Main frame computer:

* Mainframe computers are very large often filling an entire room and can process thousands of millions of instructions per second.

* Main frames are capable of supporting hundreds to thousand of users simultaneously

* Some of the functions performed by a main frame include: flight scheduling, reservations and ticketing for an airline etc

Mini computer:-

* Mini computers are much smaller than main frames.

* Some times referred to as midrange server or midrange computers

3
* They are typically larger, more powerful and more expensive than desktop computers.

* Example: Apple iPad, CDC 1604.

Micro computer:

* Micro computers are the most frequently used type of computers.

* It is also known as personal computer (PC).

* A micro computer is small computers system designed to be used by one person at a time.

* Example: Desktop computer, Laptop

3) Computer Generation:

* computer generation terminology is a change in technology a computer is used

Generation of computer:

* First Generation

* Second Generation

* Third Generation

* Fourth Generation

* fifth generation

First Generation: Vacuum Tubes (1940-1950)

* The first computers system used vacuum tubes for insuring and magnetic drums for memory

* computer of this generation consumed a lot of electricity and very expensive to operate

* first generation computers relied on machine languages, the lowest-level programming language understood by computers to perform operations.

* They could only solve one solve one problem at a time.

* Input was based on punched words and paper tape and output was displayed on printouts

second Generation: Transistors (1956-1963)

* Transistors replaced vacuum tubes in the second generation of computers.

* The Transistor to become smaller, faster, cheaper, more energy efficient and more reliable than their first generation predecessors.

Third Generation: Integrated circuits (1964-1971)

- * The development of the integrated circuit was the hall mark of the Third generation of computers
- * computer for the first time become accessible to a mass all device because they were smaller and cheaper than their predecessors

Fourth Generation: Microprocessors (1971-present)

- * The microprocessors brought the fourth generation of computer as thousands of integrated circuits were built onto a single silicon chip.

* In 1981, IBM introduced its first computer for the home user

* In 1984, Apple introduced the macintosh.

* Fourth generation computers also covered the development of graphical user interface (GUI), mouse and household device

* Quantum computation and nanotechnology will radically change the face of computers in years to come

* The goal of fifth generation computing is to develop devices that respond to natural language input and are capable of learning and self-organization.

4) Volatile and non-volatile memories

Volatile

Volatile memory is also called as primary memory

Non-volatile

The non-volatile memory is also known as secondary memory

Volatile memory is a computer storage that only maintains its data while the device powered.	Non-Volatile memory is a type of computer memory that has the capacity to hold saved data even if the power is turned off.
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Example: RAM

Example:
ROM

When were working on a document. it is kept in RAM and if the computer loses power your work will be lost.

Hard disk and floppy disk also called as example for non-volatile memory.

System Software:

* It is a type of software that is designed to run a computer hardware and application programs.

* Software like operating system, computer editors and drives etc. come under this category.

* A computer cannot function without the presence of system software.

Application Software:

* It is software created for specific purpose used by end users.

* It can be called an application or simply an app.

* Example: word processor, accounting application, a web browser, an email client, media player etc.

Open Source Software:

* Open Source Software (OSS) is a type of computer software in which source code is released under a license in which the copyright holder grants users rights to study, change and distribute the software to anyone and for any purpose.

* The Linux operating system (OS) is the best known example of Open Source Software.

6) a) create a file in MS-Word and save it file name "yourself":

- 1) click the start icon
- 2) Then point to all programs
- 3) click Microsoft Office
- 4) click Microsoft Word
- 5) select blank document and click ok
- 6) otherwise click the Microsoft Office button

file tab.

7) select new The new document dialog box appear

8) select blank document

9) enter the text and you can insert paragraph about yourself

~~10) enter the text and you can insert paragraph about yourself~~

10) click the Microsoft Office button / file tab.

11) select save as - word document.

12) select the location where you want to save

The document using the drop-down menu.

13) Enter a file name "yourself"

14) 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.
- * Its same procedurs of font style changed method and one method is changed
- * At the second bull line, click on font size box on the Home tab.
- * An othe method chckon increase/decrease font size commands in the font group on Home tab
- TO change the font color:

style and font size changed method

- * Its also same method to font
- * But its small correction that is

the Home tab

- * click on the font color box on the Home tab The font color menu appears

⇒ TO highlight (in yellow) the text that reads "needs to get IMS's address"

- * Select the text is need to get IMS's address.
- * Click on the text Highlight color in front group on the home tap
- * Various colours will appear and move your cursor over the various colours
- * click on yellow colour
- * Then text highlight color will change in the document.

7) Text for matting

- drop down menu appears
- 1) Type the text the following document.
 - 2) Select the text ms word to modify
 - 3) Click the font size box and the font size drop down menu appears
 - 4) Move the cursor over the various font size.
 - 5) Left click on the font size 12

6) click on increase/decrease font size commands.

7) In the first of the text ms word is selected to modify the colour

8) click the font colour box and move the cursor over the various font colours.

9) If you want to change the color. click the font colour box and move the cursor over the various font colour

10) Left click the font color you want to use. The color like red, blue, black etc.

11) we can use bold that text. select the text you want to modify

12) click the Bold command. In the font group or enter the button key $\text{ctrl} + \text{B}$

B) It we can use the Italic, underline, command. the same font group is used to modify the text.

14) click the Italic command or $\text{ctrl} + \text{I}$

15) click the underline command or $\text{ctrl} + \text{U}$

16) The text will change in the following document.

17) press $\text{ctrl} + \text{S}$ Key on key board.

18) Select the location where you want to save the document.

19) Enter a name "ms word" for the document

20) click the save button.

8) Equations:

$$x_2 + y_2 = 30$$

$$z_3 + z'' = 50$$

$$A_2 + B^6 = x_2 + y_8$$

1) select the first line of the following document

2) click on the subscript command on the Home tab

3) Then the line will change the text as subscript in the document.

4) And we can change the equation of second line in superscript.

5) click on the Super Script command on the Home tab

6) Then it will change the text.

7) If you want use both of the command in single line you can select the text that you want to modify the text using both commands.

8) select Save from the menu.

9) select the location where you want to save the document

10) Enter the name "equations" for the document.

11) click the Save button and finally save document.

9) Text to table

1) Select the text you want to convert.

2) Select the Insert tab.

3) click on table command. A dialog box appear.

4) click on convert text to table a new dialog box appears,

5) Here set number of columns 2 and number of rows 3

6) click on finally selected text converted in a table

7) press $ctrl + s$ key on keyboard, a new dialog box appears

~~8) select a text to table for the~~
8) Select the location where you want to save the document

9) Enter a name text to table for the document

10) click the Save button.

11) finally save the text to table document is

saved

10) Insert a Table:

1) place your insertion point in the document where you want to insert table

- 2.) select the insert tab
- 3.) click the table command
- 4.) Drag the ~~table~~ mouse over the diagrams squares to select the number of columns and rows in the table
- 5.) Left click your mouse and the table appears in the document.
- 6.) Enter text into table

11) Insert a text in ms-excel:

- 1.) Left click a cell to select it. As we select a cell the cell address appears in the name box
- 2.) Enter the text into the cell using Key board.
- 3.) press the tab key to move to the right of the selected cell
- 4.) press the Shift key then the tab key to move to the left of the selected cell
- 5.) use the page up and page down keys to navigate the worksheet
- 6.) use the arrow keys
- 7.) click the microsoft office button of file tab.
- 8.) select ~~the~~ save as
- 9.) select the location where you want to save
- 10.) Enter a name 'book' for the worksheet.
- 11.) click the save button

12) i) The Sum of the marks using Autosum in a range of cells (C2:C11)

- * select the cell (C2:C11)
- * select the drop down arrow next to the Autosum command on home tab.

* select sum or use formula = sum (C2:C11)

* press the Enter Key

Average of the mark in a range of cells (C2:C11)

- * select the cell (C2:C11)
- * click the drop-down arrow next to the Autosum command
- * select average

(ii) Highest marks in a range of cells (C2:C11)

- * select the cell (C2:C11)

- * select the AutoSum command on the Home tab

- * Select max

- * Then the highest marks in a range of cell (C2:C11)

go will appear.

minimum marks in range of cell (C2:C11)

- * Select the cell (C2:C11)

- * Select the AutoSum command on Home tab

- * Select min.

13 a) (i) To Modify column width of a worksheet

- * position the cursor over the column lines in the column heading and a double arrow will appear

- * Left click the mouse then drag the cursor to right to increase or to left to decrease the column width.

- * Release the mouse button

- * Another way. Left click the column heading of a column

- * click the format command in the cell group

- * Select column width to enter a specific column measurement.

- * select Autofit column width to adjust the column so all the text with fit.

To modify the row height of a worksheet:

- * position the cursor over the row line.

- * Left click the mouse then drag the cursor upward to decrease or downward to increase the row height

- * Release the mouse button or

- * click the format command

- * Select the row height to enter a specific row measurement

12
11) To delete row and columns of a worksheet
* Select the row or column you want to delete

* click the delete command
b) (i) Absolute reference and relative reference in formula

* Relative reference is formula automatically adjust to new location when the formula is pasted into different cells.

$$* = F_2 + C^2$$

* Absolute Reference: all reference in a formula always reference to the same cell or cell range use symbol

$$* \text{ formula: } = F_3 * \$C\$2$$

(ii) cell address:

* Each rectangular in the worksheet is called a cell.

* Each cell has a name, or a cell address based on column and row when it is located

14) a) Tools are available to customise ~~over~~ powerpoint presentation

1) Home: The Home tab holds the cut and paste features font, and paragraph options and what you need to add and organize slides

2) Insert: click Insert to add something to a slide this includes pictures, shapes, charts, links, text boxes video and more

3) Design: Add a theme or colour theme or format the slide background

4) Transitions: Gallery of the possible transitions in transition to slide group

5) Animation: To choreography the movement of things on your slides

b) Slide show: set up the way that you want to show your presentation to others

7) Review: can spell-check or compare one presentation with another

8) View: creation or delivery process

b) open a blank presentation:

* Select office button

* click New option the new presentation appear

Window, click * In the left side of the new presentation, installed Templates

* click a template to select it

* click create

Save the presentation as Lab....pptx :-

* Locate and select the save command on the quick access toolbar

* Lab....pptx is a file name is entered

* findley Lab....pptx saved

Add a title to the first slide: the name of your college:

* click on the title place holder

* Type the name of your collage: That yad hawa college

text is entered

Type your first name and last name in the subtitle section

* click on the subtitle section

* Type the text is swetha

Add a New slide which has a title and content

* click the new slide in the slide group or press

ctrl+m

15 (i) Title slide and bulleted list

* The title slides in the default layout when you open a blank presentation in powerpoint

* It comprises two text place holder

⇒ The first is title and

⇒ The second for subtitle

* The bullet lists to help organize your text or show a sequential process in your powerpoint presentation

(ii) Inserting Excel sheet:

* Select the insert tab

* click the insert tab

dialog box will appear

* locate and select the desired Excel file, then

click insert

(iii) clip art and text:

* clip art is a collection of media files (Images, videos, audio and animation file) that microsoft includes with the powerpoint application

* Select Insert > picture > from online

* In the online pictures dialog box, type words describing the kind of picture you want (such as roses) and then press enter.

- * Then select clip art under the type rate group
- * select the Images you want to Insert, then click the insert button

iv) Slide show effects

- * To start the presentation at the first slide. In the start slide show group click from beginning
- * For starting the presentation from where you are, click from current slides

part-2

16) Difference between machine language and High Level language

Machine Language	High Level Language
A computer programming language consisting of binary instructions which a computer corresponds to directly.	A High Level language is a programming language that enable development of a program in a much more user-friendly programming context.
It is referred to as machine code or object code. machine language is a collection of binary digit or bits that the computer needs.	High Level language as group into two categories based on execution model compiled or interpreted language.
A computer cannot directly understand the programming language used to create computer programs so the program code must be compiled.	The language is a programming language with strong abstraction about the details of computer in contrast to high level programming language.
Example : 01001000, 01100101, 01101100, 01101100 etc.	Example : C, C++, Java
The language marks fast and efficient use of the computer.	They are easy to write, debug and maintain.
It requires no translator to translate the code.	It provide higher level of abstraction from machine language.

Data Types:

- * Data type represent a type of the data which we can process using our computer program
- * It can be numeric, alphanumeric, decimal etc.

Data Type in C:

* Each data type requires different amounts of memory and has some specific operations which can be performed over it

* char: The most basic data type in 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 value is high)

Data types in C with range:

Type	Keyword	Value range which can be represented by this data types
character	char	-128 to 127 or 0 to 255
Number	int	-32,768 to 32,767 or -2,147,483,648 to 2,147,483,647
Small number	Short	-32,768 to 32,767
Long number	Long	-2,147,483,648 to 2,147,483,647
Decimal number	float	-1.2E-38 to 3.4E+38 is till 6 decimal

18) find the output

a) $x = 2015 \times 2 + 30 - 5$

$$x = 2015 \times 2 + 30 - 5$$

$$y = 4 \times 2 + 30 - 5$$

$$z = 8 + 30 - 5$$

$$x = 38 - 5$$

$$x = 33$$

b) $y = 30 - (40 / 10 + 6) + 10$

$$y = 30 - (40 / 10 + 6) + 10$$

$$y = 30 - 10 + 10$$

$$y = 20 + 10$$

$$y = 30$$

c) $z = 40 - 2 / 10 - 2 + 10$

$$z = 40 - 2 / 10 - 2 + 10$$

$$z = 80 / 10 - 2 + 10$$

$$z = 8 - 2 + 10$$

16
 $z = 6 + 10$
 $z = 16$

19) a) It also Statement Syntax:

```
if (expression)
{
    true block of statement
}
else
{
    else block of statement
}
```

b) for loop Syntax:

```
for (expression1: expression2:
expression)
{
    Block of statement:
}
```

c) while loop syntax:

```
while (condition)
    single statement:
or
while (condition)
{
    block of state ment:
}
```

d) ~~do~~ - while loop syntax

```
do
{
    single statement: or
do
{
    block of statement
} while (condition)
```


Find the output

a	b	c
<pre>#include <studio.h> int main () { int i; for (i=1; i<2; i++) { printf ("Im s chaziaabad\n"); } }</pre>	<pre>#include <studio.h> int main () { int i = 1; while (i <= 1) { printf ("Im s chaziaabad\n"); i = i + 1; } }</pre>	<pre>#include <studio.h> void main () { int a = 10, b = 100; if (a < b) printf ("Largest number is %d\n", a); else printf ("Largest number is %d\n", b); }</pre>
Out put Im s chaziaabad	Out put: Im s chaziaabad Im s chaziaabad	Out put: Largest number is 100