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Course Name - Fundamentals of I.T
& programming

CCA-101: Fundamentals of IT And programming

ASSIGNMENT-1

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

Ans: → A computer has four main components :

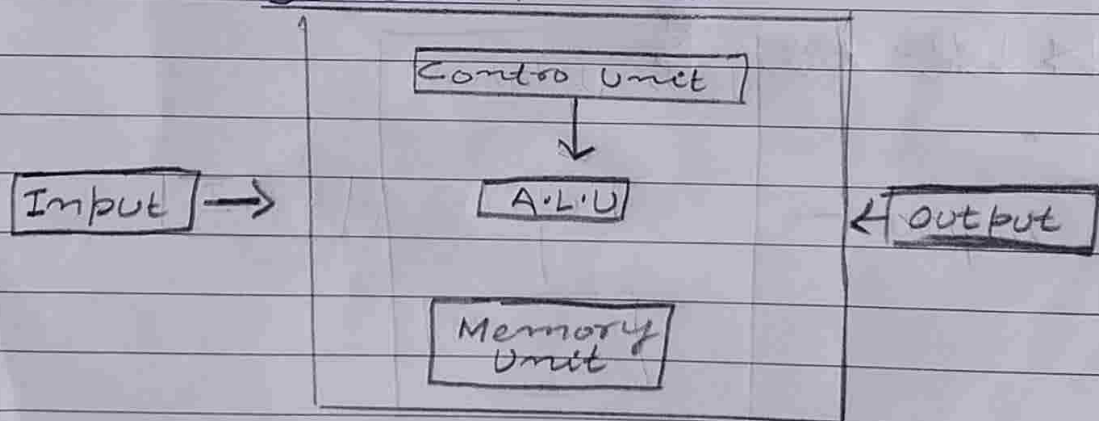
- ① Input Unit
- 2) CPU
- 3, The primary memory
- 4, Output Unit.

Input Unit: → The device to input the information such as keyboard, and mouse



(keyboard)

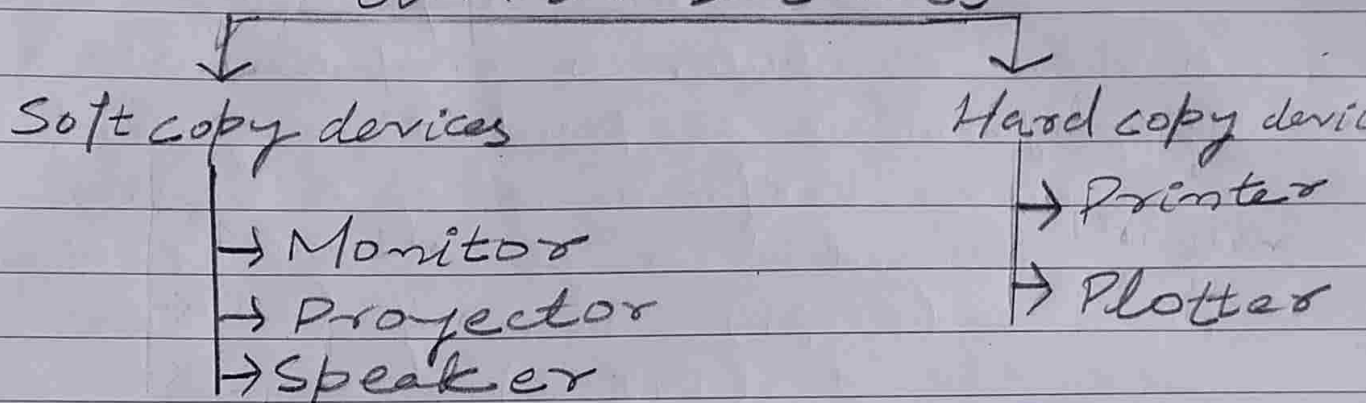
CPU: → Center processing Unit: → The CPU is further broken up into ALU, Control Unit and Instruction Unit



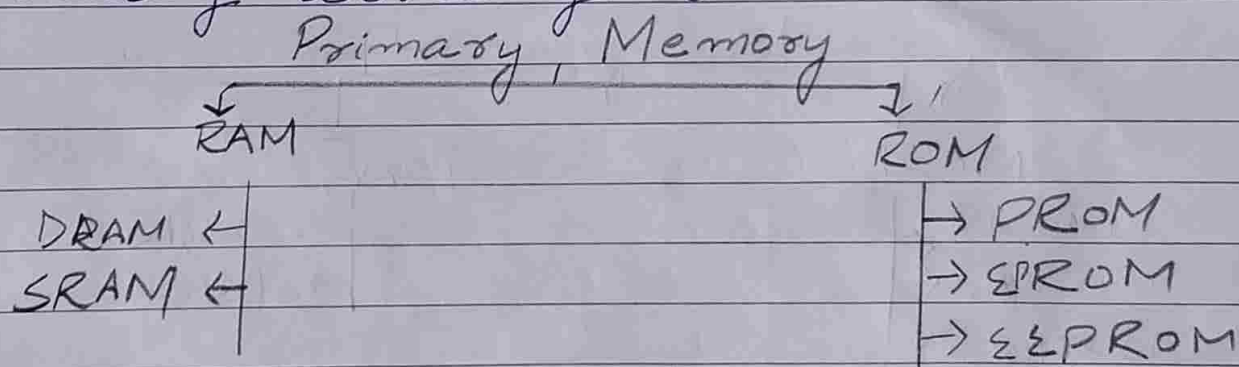
{ CPU }

Output device: → An o/p device is any peripheral that receives data from a computer, usually for display, projection, or physical reproduction e.g. the image show on inkjet printer.

OUTPUT DEVICES



Primary / Main Memory : → Primary memory is computer memory that is directly accessible by CPU. It is comprised of DRAM and provides the actual working space to the processor. It holds the data and instructions that the processor is currently working on.



Qno 2 : → Discuss about the classification of computers based on size and capacity?

Ans : → Based on size and capacity, computers are classified as follows:

- Super computers.
- Mainframe computers.
- Mini computers.
- Micro computers.

Super Computer

A super computer is computer with a high level of performance compared to a general-purpose computer. Performance of a supercomputer is measured in floating-pt. operation per sec (Flops) instead of million instructions per second (MIPS).

Mainframe Computer

A mainframe is a large integrated machine with a lot of memory, a lot of storage capacity, and lot of high-end processors. For such a large functioning it has a lot of computational power in comparison to normal computer systems.

Mini Computers

Minicomputer, computer that was smaller, less expensive, and less powerful than a mainframe or supercomputer but more expensive and more powerful than a personal computer. minicomputers were used for scientific and engineering computations.

Micro Computer

A micro computer is a computer on a small scale, designed for use by one person at a time. An antiquated term, a microcomputer is now primarily called personal computer (PC). Single chip microprocessor common microcomputers include laptop and desktop

Ques 3 What is the meaning of Computer Gen. How many computer gen. are defined? Which technologies were/are used?

Ans: → Computer gen. is classification of computer into different groups according to their manufacturing date, memory, device, hardware and spw technologies used in them. There is five gen of computer.

1st Gen.

1946 - 1959 - Period of first gen
The first computers of first gen. used vacuum tubes as the basic components for memory and circuitry for CPU. These tubes like electric bulbs produced a lot of heat and the installations used to fuse frequently.

2nd Gen

1959 - 1965 - 2nd Generation period
In this gen transistors were used that way cheaper, consumed less power. more compact in size, more reliable and faster than the first generation machine made of vacuum tubes.

3rd Gen

The Period of third gen. were computers that emerged due to the development of the integrated circuit (IC). They were the first steps toward computers as we know them today. IC circuit allowed them to be shrunk down to be as small as large to aster

5

4th GEN

The period of 4th gen was 1971 to 1980. Computers of fourth gen. used very large Scale Integrated (VLSI) circuits. VLSI circuits and other circuit elements with their associated circuits on a single chip made it possible to have microcomputers of fourth generation.

5th GEN

Fifth gen. computer was an initiative by Japan's Ministry of International trade and Industry (MITI) began in 1982, to create computer using massively parallel computing and logic programming. It was to be the result of a govt. industry research project in Japan during the 1980's.

Different b/w Volatile and non-volatile memory	
1 Volatile Memory	Non-Volatile Memory
① Volatile memory is the type of memory in which data is lost as it is powered-off.	① In this memory there is no effect happen even in power off mode.
② It is faster	It is slower
3 RAM is the example of volatile memory	ROM is an example of non-volatile memory

Q no 5 Distinguish among System software, app S/w, and open source S/w on the basis of their feature?

System software

System software is a type of computer program that is designed to run a computer's hardware and applications programs. If we think of computer system as a layered model, the system S/w is the interface b/w operating system is the best-known example of system S/w.

Application Software

An Application S/w program is a computer program designed to carry out a specific task other than one relating to the operation of the computer itself, typically to be used by end users. word processors, media players, and accounting S/w are examples.

Open SOURCE Software

open - source S/w (OSS) is computer S/w that is released under a license in which the copyright holder grants users the right to use, study, change and distribute the S/w and its code to anyone and for any purpose. open-source S/w may be developed in a collaborative manner.

Ques Create a file in Ms. Word to insert a paragraph about yourself and save it with file name "yourself". Describe all steps.

Ans :-> open word, or if word is already open select File > New

2. In the search for online templates box, enter a search word like letter, resume, or cv, or, select a category under the search box like Business, personal, or Education.
3. Click a template to see a preview.

4. Select create.

b) Write steps regarding following:

1) To change the font style.

Ans Select the text you want to modify.

c) To change the font size.

As Select the home tab and locate the font group

3 To change the font colour.

A- click the drop-down arrow next to font style box

4 To highlight (in yellow) the line that reads "need to get IM's address."

Ans If you want to change the font to bold or italic click the 'B' or 'I' icons on the format

Qn 7 Create a file in MS word for the following documents and Save it with file ms-word. Describe all steps involved MS word.

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

- Creating
- editing
- saving
- Printing any type of document.

Ans:-

Creating

1. Click the microsoft office button/file tab
2. Select New. the new document dialog box appears.
3. select Blank document, it will be highlighted by default.
4. A New blank document appears in the word window.
5. Now you can create document by inserting text.
6. Finally save document.

Editing

1. click the edit tab.
2. Select the text you want to edit.
3. Using the tool in the edit toolbar, change

the required formatting including font style, paragraph, alignment, list format and indentation option.

Saving

- To save doc. using save as command

 1. Click the Microsoft office button/file tab
 2. Select save as - word document.
 3. Select the location where you want to save the doc. using the drop-down menu.
 4. Enter a name for the doc.
 5. Click the save button.

Printing any type of document

1. Select File Print.
2. To preview each page, select the forward and backward arrows at the bottom of the page. If the text is too small to read use the zoom slider at the bottom of the page to enlarge it.
3. Choose the no. of copies, and any other options you want, and select the print button.

Q. 18 Create a file in MS Word for the following document and save it with the file.

Name 'equations'. Describe all steps involved in it.

$$x_2 + y_5 = 30$$

$$2^3 + 10^4 = 50$$

$$A_2 + B^6 = x_2 + y^8$$

- Ans → Select Insert > equation or Press ALT +=
2. To use a built-in formula, select design
 3. To create your own, select design > eq > ink equation
 4. Use your finger, stylus, or mouse to write your equation.
 5. Select insert to bring your equation into the file

Qing Create a file in MS-Word that convert existing highlight text to table

Ans → Select the text and make sure its property formatted.

Word will insert a new column when a tab character is found, so make sure that columns are separated by tabs.

2. Click the insert tab.
3. Click the table button.
4. Select Convert text to table.

If the text was formatted right, some of the options in this dialog box should already be filled in. Otherwise, set the no.'s of columns and rows and how to separate the text into columns

5. Customize Autofit behavior.
6. Click OK.

The selected text is automatically turned into a table.

Qno 10 → Create a file in MS-Word to insert a table in document. Describe all steps

As : 1. open a blank word document.

2. In the top ribbon, press Insert.

3. click on the table button.

4. Select the no. of columns and rows you need, or click insert table and a dialog box will appear where you can specify the no. of columns & rows.

5. The blank table will now appear on the page after it as necessary. standard features like bold, italics and underline are still available. These items may be helpful for creating heading & calling out certain items in the table.

Qno 11 Create a following worksheet in MS-Excel and save it with name "book 1".

As : 1. Right-click the worksheet name tab.

2. click select move and copy.

3. click on the move selected sheet to Book drop-down menu select (new book).

4. click Ok your new workbook opens with your moved worksheet.

5. click file > save in your new workbook.

Qno 12 The sum of the marks using Autosum in a range of cells (C2:C4)

As : → To sum a column of numbers select the cell immediately below the last number.

in the column. To sum a row of no's, select the cell immediately to the right.

2; Autosum is in two locations: Home > Autosum and formulas > Autosum.

3; Once you create a formula, you can copy it to other cells instead of typing it over and over.

e.g. if you copy the formula in cell B12 to cell 'C12' the formula C12 automatically adjust to the new location and calculate the number in C2:C11.

4; You can also use autosum on more than one cell at a time.

e.g. you could highlight both cell B12 and 'C12' click autosum and total both columns at the same time.

5; You can also sum numbers by creating a simple formula.

(b) Average of the marks in a range of cell (C2:C11)

As: Click a cell below the column or to the right of the row of the numbers for which you want to find the average

2; on the Home tab, click the arrow next to the autosum > Average, and then press enter.

(c) Highest marks in range of cells (C2:C11)

As: In a blank cell, type "=MaxC"—

2. Select the cells you want to find the

Largest number form.

3. Close the formula with an ending parentheses.
4. Hit enter and largest number from your selection will populate in the cell.

(d) minimum marks in a range of cell (C2:C11)

- As: Select the cell C2 and write the formula
2. $=\text{Min}(C2:C11)$ press Enter on your keyboard.
 3. The function will return 3.
 4. 3 is the a minimum value in the range (C1:C11)

Q no 3 Describe various steps involved in the following.

① To modify column width of a worksheet

As: Select the column or columns that you want to change.

2. on the home tab, in the cells group, click format.
3. Under cell size, click column width.
4. In the column width box, type the value that you want.
5. Click ok.

Absolute reference and relative reference.

② To modify the row or height of a worksheet

As: Select the cell that contains the formula

2. In the formula bar select the reference that you want to change.
3. Press F4 to switch between the reference types.

- ② To modify the row or height of a worksheet
- Ans: Select the row that you want to change
2. On the home tab, in the cells group click format.
 3. Under cell size, click Row height
 4. In the Row height box, type the value that you want, and then click ok.

3. To delete rows and column of a worksheet
1. Select the cells, rows or columns that you want to delete.
 2. Right-click and shift up, Delete cell & shift left, Delete Rows or delete columns.

(b) Describe the following terms in the worksheet

① Absolute reference cell address.

Ans: A cell is the intersection of a row and a column. column are identified by letters (A, B, C), while rows are identified by no's (1, 2, 3) Each cell has its own name or cell address-based on its column and row. In this e.g. the selected cell intersect column C and row 5, so the cell address is C5

Q14: Write the steps for the following action for creation of power point presentation.

- Ans:
1. Select the file tab to go to Back stage view
 2. Select New on the left, side of the window then click Blank Presentation
 3. A new presentation will appear.

a) What tools are available to customize our powerspoint presentation?

Ans: 1) Templates and themes.

- | | |
|----------------------|-------------------|
| 2) Slide layouts | 11) Blockcharts |
| 3) Font | 12) Icon charts |
| 4) Color Themes | 13) Radials |
| 5) Icons | 14) Progress Bars |
| 6) Shapes | 15) Animation |
| 7) Stock Photos | 16) Transitions |
| 8) Charts and Graphs | 17) Interactivity |
| 9) Maps | 18) Audio |
| 10) Tables | 19) Video |

2) Save the presentation as lab.ppt.

Ans: Create a Blank presentation.

- 2) Save a presentation.
- 3) Apply a Design.
- 4) Compare Presentation views
- 5) Format text.
- 6) Insert Smartart.
- 7) Insert & Modify Shapes.
- 8) Edit and Duplicate slides.

3) Add a title to the first slide: the name of your collage.

Ans: Select the slide whose layout you will change so that it can have a title.

- 2) Click Home > layout.
- 3) Select title slide for a standalone title page or select title and content

page or select title and a full slide text. May other layout options include title too, Pick the ones that's best suited for your presentation.

4. Select the click to add title text box. Enter your title for that slide.

④ Type your first name and last name in the subtitle section.

As: Using your mouse and cursor, click inside of the top text box.

② Using your keyboard type the name of the animal you have been reading in class.

③ Using your mouse and cursor, click inside of the bottom text box.

④ Using your keyboard, type your first and last name, click enter, and type your teacher's name.

⑤ Add a new slide which has a title and content.

As: ① click the "Home" tab in the Ribbon.

② Then click the "new slide" button in the "Slides" button group.

③ Alternatively to add a new slide with a different slide layout.

④ click the "Home" tab in the Ribbon.

Q15: → a) Title slide and bullet list?
Title Slide

As: The title slide is the first slide of

of a presentation. It usually contains a title and a subtitle. Of all the slides in a presentation, the first slide is one of the most important, as the title slide generally sets the tone.

- ① Click Home's layout
- ② Select Title slide for a standalone title page or
- ③ Select title and content for a slide that contains a title and a full slide text
- ② Bullet list.

As: ① on the left-hand side of the powerpoint window.

- ② click a slide thumbnail that you want to add bulleted or numbered text to.
- ③ on the slide, select the lines of text placeholder or table that you want to add Bullets or numbering to.
- ④ on the Home tab, in the paragraph group click Bullets or Numbering.

Part 2

Q16 → What is difference b/w Machine language and high level language?

Machine language → A machine language is the only lang. that a computer directly understands, it is usually written in zeros (0) and ones (1). A program instruction in machine lang. may look something like this 110010010 whereas

High level language $\rightarrow$ A high level language is a programming lang. that uses English and mathematical symbols like +, -, % and many others, its introduction

Q no 17 Discuss about different data types of C Programming language?

Ans: $\rightarrow$ There are some common data types in C programming language.

- ① Int - used to store an integer value.
- ② char - used to store a single character.
- ③ float - used to store decimal no.'s with single precision.
- ④ double - used to store decimal no.'s with double precision.

e.g

```
#include <stdio.h>
int main()
{
    // datatypes
    int a = 10;
    char b = 'S';
    float c = 2.88;
    double d = 20.888;
    printf("Integer datatype: %d\n", a);
    printf("Character & c : %c\n", b);
    printf("float datatype: %f\n", c);
    printf("double datatype: %f\n", d);
    return 0;
}
```

Q/P ① Integer datatypes: 10 ④ Double float datatype

② Char datatypes: 5 : 2.8880000

③ float datatypes: 2.880000

Q18) Find the output of the following expressions

a) $n = 20/5 * 2 + 30 - 5$

Ans: $n = \frac{20 \times 2}{5} + 30 - 5$

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

$$n = 8 + 30 - 5$$

$$n = 8 + 25$$

$$\boxed{n = 33}$$

Hence, the value of n is 33 As.

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

Sol: $y = 30 - 4 + 6 + 10$

$$y = 30 - 0$$

$$\boxed{y = 0}$$

Hence, the value of y is 30 As.

c) $Z = 40 * 2/10 - 2 + 10$

Sol: $Z = 40 \times \frac{2}{10} - 2 + 10$

$$Z = 8 - 2 + 10$$

$$Z = 8 + 8$$

$$\boxed{Z = 16}$$

Hence, the value of Z is 16 As.

Qno/9 Describe the syntax of the following statements?

a) If - else statement.

Ans:→

```

#include <iostream>
using namespace std;
int main()
{
    int number;
    cout << "Enter an integer";
    cin >> number;
    if (number > 0)
    {
        cout << "you entered a positive integer : " << number << endl;
    }
    else if (number < 0)
    {
        cout << "you entered a negative integer " << number << endl;
    }
    else
    {
        cout << "This line is always printed";
        return 0;
    }
}

```

o/p

Enter an integer;

b)

for loop

Ans:

```

#include <stdio.h>
int main()
{
    int i;
    for (i = 0; i < 10; i++)
    {
        printf("Hello world");
    }
}

```

```

    }
    return 0; }

```

O/P

10 times write Hello world.

c) while loop

Ans:

```

#include <stdio.h>
int main()
{
    int i = 0;
    while (i < 10)
    {
        printf("Hello world");
        i++;
    }
}

```

O/P 10 times write Hello world.

d) do - while loop :->

Ans:->

```

#include <iostream>
using namespace std;
int main()
{
    int i = 1;
    do
    {
        cout << i << "\n";
        i++;
    }
    while (i <= 10);
}

```

O/P

1 to 10 Ans.

20: Find the output of the following program segments.

a)

```
#include <stdio.h>
int main()
{
    int i;
    for (i=1; i<2; i++)
    {
        printf("IMS Ghaziabad\n");
    }
```

O/P IMS Ghaziabad

(b)

```
#include <stdio.h>
int main()
{
    int i = 1;
    while (i <= 2)
    {
        printf("IMS Ghaziabad\n");
        i = i + 1;
    }
```

O/P Two times write IMS Ghaziabad

(c)

```
#include <stdio.h>
void main()
{
    int a = 10, b = 100;
    if (a > b)
        printf("large no is %d\n", a);
    else
        printf("large no is %d\n", b);
```

O/P larger number is 100