

Assignment - 1

Q- What are the four fundamental parts of Computer? Explain it with the help of diagram?

Ans - The four fundamental parts of Computer are -

- 1- Central processor unit
- 2- Memory (RAM) also known as volatile memory
- 3- Input [Keyboard, mouse etc]
- 4- Output [monitor, printer etc]

Q- Discuss about the Classification of Computers based on size and capacity?

Ans - On the basis of size there are four types of Computer:-

(1)- ~~Main~~ Mini computer - A mini computer is a medium sized computer more powerful than micro-computer. Example - Digital Alpha Sun ultra.

(2)- Micro computer - A micro computer is the smallest general

Purpose processing system.

Exmple - Apple Computer, PCs, Notebook etc.

It is 2 types -

(a) Desktops

(b) Portables

(3) Mainframe Computer - Computer with large storage.

Capacities and very high speed of processing.

Exmple - IBM 370, S1390.

(4) Super Computer - Super Computer have extremely large storage capacity and computing speeds which are many times faster than other computer.

Exmple - IBM Deep Blue

Q-3- What is meaning of computer generation. How many computer generations are defined. What technologies were are used?

Ans- History of computer can be considered from crise of human culture as person know as Calcasation. Roman's abacus is first device

used in B.C for Calculation. The electronic numerical integrated and Calculation [ENIAC] first general purpose digital electronic Calculation.

Ques-

Ans-

1.

Generation of Computer -

1- first Generation - It had been used vacuum tube technology. Make possible to do Calculation.

2.

2- Second Generation - It had been used transistors which made a Computer a little Concise and faster to do the same.

3.

3- Third generation - It had been used for Integrated Circuits. faster, comparatively, and reliable as well.

5.

Ques-

4- fourth generation - It had been used Micro processor inside to work for better comparatively.

Ans-

5- fifth generation - Computer are considered Automatic intelligence, they use Artificial intelligence.

1.

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Ques 4- Differences between Volatile and non volatile memories?

Ans - Volatile Memory	Nonvolatile Memory
1- Data is present till power supply is present	1- Data remain even after power supply is not present
2- Volatile Memory data is not permanent	2- Is permanent
3- faster than Non-volatile memory	3- Memory access is slower.
4- Data transfer is easy	4- Data transfer is difficult. HDD has
5- Less storage capacity	very high storage capacity

Ques 5- Distinguish among System Software application Software and open Source on the basis of their features?

Ans - System Software	Application Software
1- Maintain the system resources and given the path for Application Software to Run	It is built for specific task.

2- How level language are used to write | High level language are used to write. | Que-

3- It's a general purpose software. | specific purpose software. | Ans-

4- without System Software System Can't run | while without Application Software System always run

Example - operating system etc | Example - VLC players photoshop etc.

Que- what is difference between Machine language and High level language?

Ans- Machine language or machine code, consists of binary code and is the only language that is directly understood by the computer. Both machine code and Assembly language are hardware specific.

A high level language is a programming language that uses English and mathematical symbols in the instructions. High level language such as C++ must be compiled into machine language before the code is run on a computer.

Ques- Describe the syntax of the following system?

Ans-1- If-else-Statement - If else Statement can be followed by an optional else statement which occurs when the expression is false. The syntax of an if else statement in C programming language is if (expression)

{
Block of statements
}

else

{ Block of statements
}

The above syntax can be represented in the form of a flow below you can understand the ~~concept~~ ^{concept} of Conditional Statement in the C programming with following program for the example. Find the largest of two numbers if the numbers are $a=30$ and $b=50$

```
#include <stdio.h>
```

```
int main () {
```

```
int a=30, b=50
```

```

if (a > b) {
    printf("largest number is %d\n", a);
} else {
    printf("largest no is %d\n", b);
}
}

```

When the above program is executed it will produce the following result -
largest number is 50

(b) For loop - for loop is similar to while its just written differently. for statements are often used to process such as a range of numbers.

Basic syntax of the for loop is as following :-

```

for (expression 1; expression 2; expression 3)
    Single Statement
OR
    Block of Statements :
}

```

In the above syntax:

- Expression 1 - Initializes Variables.
- Expression 2 - Conditional expression as long as Conditional is true loop will keep executing.
- Expression 3 - is the modification which may be simple in terms of variable.

(iii) while loop - The most basic loop in C is the while loop. A while loop statement is like a repeating if statement. Like an if statement if the test Conditional is true: the statement gets executed. The difference is that after the statements have been executed the test condition is checked again. If it is still true the statement gets executed again. The cycle repeats until the test condition evaluates to false.

Basic Syntax of while loop is as follows
 while (Expression)

{ Single Statement

0.5x

Block of Statement

}

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

Basic syntax of do-while loop is as follows:

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

You can understand the concept of the various loops by execution by execution of the following C programming.

#include <stdio.h>	#include	#include
int main ()	int main()	int main ()
{	{	{
int i;	int i;	int i;
for(i=0; i<5; i++)	while(i<5)	do {

3
Print R

Output
Hello 0
Hello 1
Hello 2
Hello 3
Hello 4

Output
Hello 0
" 1
" 2
" 3
" 4

Output
Hello 0
" 1
" 2
" 3
" 4

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CCA-Fundamentals of IT and Programming

Que. 4 Write a program in C to compute a quotient and remainder.

Ans-

```
#include <stdio.h>
void main() {
    int dividend, divisor, quotient, remainder;
    printf("Enter dividend: ");
    scanf("%d", &dividend);
    printf("Enter divisor: ");
    scanf("%d", &divisor);
    quotient = dividend / divisor;
    remainder = dividend % divisor;
    printf("\n Quotient = %d\n", quotient);
    printf("\n Remainder = %d", remainder);
}
```

Que. 5 Write a program in C to swap the value of two integer numbers.

Swap numbers without using temporary variables.

```
#include <stdio.h>
void main() {
    int n1 = 10, n2 = 40;
    n1 = 40;
```

```

n2 = 10;
// Swapping
n1 = n1 - n2;
n2 = n1 + n2;
n1 = n2 - n1;

```

```

Print f ("In After Swapping,
         n1 number = %d", n1);
Print f ("In After Swapping
         n2 number = %d", n2);

```

Ques.6. Write a program to find the largest of three numbers.

```

#include <stdio.h>
void main () {
    int n1, n2, n3; largest;
    Print f ("Enter three different No:");
    Scan f ("%d %d %d", &n1, &n2, &n3);

    if (n1 > n2)
        largest = n1;
    else,
        largest = n2;
    if (n3 > largest)
        largest = n3;
}

```

Print $\{$ largest number is $\%$
 d ; largest $\}$;

Enter three numbers 30, 20, 40.
largest no is 40

Ques.

Ques. 7 Write a program to check
whether a integer number is
even or odd.

```
# Include <stdio.h>
void main { }
int num;
Print f ( "Enter a number:" );
Scan f ( "%d: &num" );
if ( num % 2 == 0 ) {
Print f ( "Even number" );
else,
```

Print f ("Odd number");

while (n != 0) {

digit = n % 10

Sum = Sum + digit;

n = n / 10;

}

Print f ("Sum of the digit
= %d", Sum);

}

Ques

Ques. 11. Write a program to reverse an integer number.

```
#include <stdio.h>
void main () {
    int n; rev = 0; digit;
    printf ("Enter an integer:");
    scanf ("%d", &n);
    while (n != 0) {
        rev = rev * 10 + digit;
        n = n / 10;
    }
    printf ("Reversed number = %d", rev);
}
```

Ques. 12. Write a program to calculate factors of a positive integer.

```
#include <stdio.h>
void main () {
    int no, i;
    printf ("Enter a positive Integer");
    scanf ("%d", &num);
    printf ("Factors of %d are:", num);
    for (i = 1; i <= num; i++) {
        if (num % i == 0) {
            printf ("%d ", i);
        }
    }
}
```

Que. 8 Write a program to display table of any integer number. Que. 10

```
# Include <stdio.h>
Void main () {
    int n, i;
    Print F ("Enter an integer: ");
    Scan F ("%d", &n);
    For (i = 1, i <= 10; i++) {
        Print F ("%d * %d = %d\n", n, i, n*i);
    }
```

Que. 9 Write a program to display first ten the fibonacci sequence.

```
# Include <stdio.h>
Void main () {
    int i, n, t1 = 0, t2 = 1, next term;
    Print F ("Enter the number of term");
    Scan F ("%d", &n);
    Print F ("Fibonacci Series ");
    For (i = 1; i <= n; i++) {
        Print F ("%d", t2);
        next term = t1 + t2;
        t1 = t2;
        t2 = next term;
    }
}
```

Que. 10 Write a program to calculate the sum of digits of an integer number.

```
# Include <stdio.h>
void main ()
int Sum = 0, digit;
Print F ("Enter an integer:");
Scan F ("%d", &n);
```