

ASSIGNMENT-1

(a)

(b)

(iii)

Ques-1 What are the four fundamental parts of computer? Explain it with the help of diagram?

(iv)

Ans The four fundamental parts of Computer are:-

- (i) Central processor unit
- (ii) Memory (RAM) also known as Volatile memory
- (iii) Input [keyboard, Mouse, etc.]
- (iv) Output [Monitor, printer etc.]

Ques-

Ques-2 Discuss about the Classification of Computers based on size and capacity?

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

Ans

(i) Main Mini Computer :- A mini computer is a medium sized computer more powerful than micro-computer.
Example :- Digital Alpha, Sun Ultra.

(ii) Micro Computer :- A micro computer is the smallest general purpose processing system.

Example :- Apple Computers, PCs, Notebooks, etc.

It is 2 types :-

(a) Desktops

(b) Portables

(iii) Mainframe Computer :- Computer with large storage capacities and very high speed of processing.
Example :- IBM 370, S1390.

(iv) Super Computer :- Super Computer have extremely large storage capacity and computing speeds which are many times faster than other computer.
Example :- IBM, Deep Blue.

Ques-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 cruse of human culture as person known as calculation.

Roman's abacus is first device used in BC for calculation. The electronic numerical integrator and calculator [ENIAC] first general purpose, digital electronic calculation.

Generation of Computer :-

First generation :- It had been used Vacuum tube technology make possible to do calculation.

- (ii) Second Generation ÷ It had been used ~~transistors~~ transistors which made a computer a little concise and faster to do the same. Que
- (iii) Third Generation ÷ It had been used Micro-processor inside to work for better comparatively. Ans
(i)
- (iv) Fourth Generation ÷ It had been used for Integrated ~~Cir~~ Circuits. faster, comparatively and reliable as well. (ii)
- (v) Fifth Generation ÷ Computer are assigned automatic intelligence, they use Artificial intelligence. (iii)
(iv)

Ques 4 Differentiate between Volatile and non-volatile memories? Examp

Ans

<u>Volatile Memory</u>	<u>Non-Volatile Memory</u>	
(i) Data is present till power supply is present.	Data is remain supply even after power supply is not present.	<u>Que</u>
(ii) Volatile memory data is not permanent.	Is permanent.	<u>Ans</u>
(iii) faster than Non-volatile memory.	Memory access is slower.	
(iv) Data transfer is easy.	Data transfer is difficult.	
(v) less storage capacity.	HDD has very high storage capacity.	

Ques-5 Distinguish among System Software, Application Software and open source software and open source on the basis of their features?

<u>Ans</u> System Software	<u>Application Software</u>
(i) Maintain the system resources and give the path for Application Software to run.	(i) It is built for specific task.
(ii) How level language are used to write	(ii) High level language are used to write.
(iii) Its a general purpose software.	(iii) Specific purpose software.
(iv) without System software system can't run.	(iv) while without Application software system always run.
Example: Operating system etc.	Example: VLC player, photoshop etc.

Question 16 What is the 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-19 Describe the Syntax of the following Statements

(i) If-else Statement ÷ If else Statement can be followed

by an optional else Statement which executes when the boolean expression is false. The Syntax of an if... else Statement in C programming language is if (expression)

{ Block of Statements;

} else

{ Block of Statements;

}

(b)

The above Syntax can be represented in the form of a flow diagram below - you can understand the concept of conditional Statements in the C programming with following program.

for 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 number is %d\n", b);
```

```
}
```

```
}
```

When the above program is executed, it produces the following result -
largest number is 50

(b) for loop ÷ for loop is similar to while, it's just written differently. for statements are often used to process list such as a string 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 this conditional is true, loop will keep executing. (iv)
- expression 3 - Expression 3 is the modifier which may be simple increment 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 and if Statement, if the test conditional is true: the Statement get executed. The different is that after the Statements have been executed, the test condition is checked again. if it is still true the Statements get executed again. The cycle repeats until the test condition evaluates to false.

Basic Syntax of while loop is as follow

while (expression)

{

Single Statement
or

Block of Statement;

}

(iv) 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.

using

using while loop

using do-while loop

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

```
        printf("Hello!\n", i);
    }
}
```

Output

```
Hello 0
Hello 1
Hello 2
Hello 3
Hello 4
```

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

```
        printf("Hello!\n", i);
        i = i + 1;
    }
}
```

Output

```
Hello 0
Hello 1
Hello 2
Hello 3
Hello 4
```

```
#include <stdio.h>
int main ()
{
    int i=0;
    do {
```

```
        printf("Hello!\n", i);
        i = i + 1;
    } while (i<5);
}
```

Output

```
Hello 0
Hello 1
Hello 2
Hello 3
Hello 4
```

QueAnsQueAns

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Ques-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 ("Quotient = %d\n", quotient);
    printf ("Remainder = %d", remainder);
}
```

Ques-5 Write a program in C to swap the value of two integer numbers

Ans Swap number without using temporary variables

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

$$n_1 = n_1 - n_2;$$

$$n_2 = n_1 + n_2;$$

$$n_1 = n_2 - n_1;$$

QuesAns

```

printf ("\n After swapping, n1 number = %d", n1);
printf ("\n After swapping n2 number = %d", n2);
}

```

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

Ans

```

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

```

```

    if (n1 > n2)
        largest = n1;
    else

```

```

        largest = n2;
    if (n3 > largest)
        largest = n3;

```

QuesAns

```

printf ("largest number is %d", largest);
}
Enter three number 30, 20, 40
largest number is 40

```

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

Ans

```
#include <stdio.h>
void main () {
    int num;
    printf ("Enter a number: ");
    scanf ("%d", &num);
    if (num % 2 == 0) {
        printf ("Even number");
    }
    else
        printf ("odd number");
    while (n != 0) {
        digit = n % 10;
        sum = sum + digit;
        n = n / 10;
    }
    printf ("Sum of the digit = %d", sum);
}
```

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

Ans

```
#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.

Ans

Ans

```

#include <stdio.h>
void main () {
    int num, 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);
        }
    }
}

```

Ans

Ans

Ques-8

Write a program to display table of any integer number.

Ans

```

#include <stdio.h>
void main () {
    int n, i;
    printf ("Enter an integer: ");
    scanf ("%d", & n);
}

```

Ques

```

for (i=1, i(<=10 i++)) {
    printf ("%d*%d = %d\n", n, i, n*i);
}
}

```

Ques 8 Write a program to calculate the sum of digits of an integer number.

Ans Ques-9 Write a program to display first ten the fibonacci sequence.

Ans

```

#include <stdio.h>
void main () {
    int i, n, t1=0, t2=1, next term;
    printf ("Enter the number of term,");
    scanf ("%d", &n);
    printf ("Fibonacci Sequence");
    for (i=1; i(<=n; ++i) {
        printf ("%d, ", t2);
        next term = t1+t2;
        t1 = t2;
        t2 = next term;
    }
}

```

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

Ans

```
#include <stdio.h>
void main () {
    int n, sum = 0, digit;
    printf ("Enter an integer: ");
    scanf ("%d", &n);
```

QueAns

(i)

(ii)