Assignment - 02

Q.1 What are the program language paradigms?

→ In every programming language, we can use three key words to solve any problems statement that three key words are:

1. Sequence
2. Selection
3. Iteration

Q.2 What are the steps that we have to follow while writing the program?

→ General steps to follow while writing program-

1. Understand the problem you are trying to solve.
2. Design a solution
   Draw a flow chart
   write a pseudo code
   Write code
   Test & debug.

Q.3 What is meant by iteration & what are the syntactical ways in which we can perform iteration in c?

→ If we want to execute one more statements repeatedly, then we can the concepts of iteration.

Our can we any kind of loop depends on the requirement as for loop.

In case of iteration can we any kind of loop depends on the requirement as for loop, while loop & do while loop.

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There are three ways to perform iteration in C

1. for loop
2. while loop
3. do while loop

Q.4 What is the difference between for loop & while loop?

→

For loop	While loop
1. The for loop is used for definite loops when the number of iterations is known.	1. The while loop is used when the number of iteration is not known.
2. For loops can have their counter variables declared in declaration itself	2. The while loop will continue to run infinite number of times until the condition is met.
3. This is preferable when we know exactly how many times the loop will be repeated.	3. The while loops will continue to run infinite number of times until the condition is met.
4. The loop iterates infinite number of times if the condition is not specified	4. If the condition is not specified it shows a compilation error.

Q.9

Q.5 What is the difference between while loop & do while loop?

while loop	Do while loop
1. The while loop evaluates the condition first and then execute the statements.	1. The do while loop executes the statements first before evaluating the condition.
2. The condition is specified at the beginning of the loop	2. The condition is not specified until the after body of the loop
3. The body is executed only if a certain condition is met & it terminates when the condition is false	3. The body is executed at least once, regardless of whether the condition is met.

Q.6 What is mean by selection

→ If we want to decide the execution flow of our program, based on some condition, then we can use the concept of selection. For the selection, we can use if else if constructor or switch case.

Q.7 What is the difference between if else if & switch case?

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If else	Switch
1. A control structure that executes statements if the condition is true, executes the option block if the condition is false	A section control mechanism that allows a value or variable to change the control flow of program execution via a multi-way branch.
2. If the expression in the "if" block is true, the "if" block will execute, if not, the else block will execute.	Executes the statement in the matched case statements inside the until a break statement.

Q.8 Explain the below syntax of the loop

```
int iCnt = 0;
for (iCnt=1; iCnt<=10; iCnt++)
{
printf("Marvellous");
}
```

→
For (iCnt=1, ← loop initialization
iCnt <=10 ← loop condition
iCnt ++ ← loop counter increment/decrement

⑤

Q.9 Explain below syntax of while loop.

```
int iCnt = 1;
while (iCnt <= 10)
{
    printf ("Marvellous");
    iCnt++;
}
```

In this syntax, we can execute the output by adding / increasing amount using < = 10 & c++ operator.