Computer Programming
Lab - 04
While, For and do-while (Looping)

Objective : To understand the counter controlled repetition,sentinel controlled repetition,for loop, while and do-while loops

Read the following table to understand the instructions for the smooth flow of lab.

Lab time and marks distribution

No#	Topic/Task	Time	Assessment Marks
	Topic Demonstration By Instructor : 30 minutes		
1	While loop	10 minutes	01
2	While loop	10 minutes	01
3	While loop	10 minutes	01
4	For loop	5 minutes	01
5	For loop	5 minutes	01
6	For loop	10 minutes	01
7	For loop	10 minutes	01
8	For loop	10 minutes	01
9	do-while	10 minutes	01
10	do-while	10 minutes	01
		Total Time 2:00 hours	Total Marks: 10

Lab Policy :

·   All the students have to do this lab individually
·   Anyone doing cheating will be assigned **ZERO** in assessment marks
·   All the tasks are mandatory to obtain the assessment marks
·   During lab No one is allowed to move outside without permission

Walkthrough Tasks:
While loop :printing numbers from 1 to 4

```c
#include <stdio.h>
main()
{
    int count=1;
    while (count <=4)
    {
        printf("%d ", count);
        count++;
    }
}
```

For loop:Infinite for loop

```c
#include <stdio.h>

int main () {

    for( ; ; ) {
        printf("This loop will run forever.\n");
    }

    return 0;
}
```

```c
1    #include <stdio.h>
2
3    int main () {
4        int a = 10;
5
6        do {
7            printf("value of a: %d\n", a);
8            a = a + 1;
9        }while ( a < 20 );
10       return 0;
11   }
```

Practice Tasks:

While loop

1)   Write a C program to print all alphabets from a to z. - using while loop
2)   Write a C program to print all natural numbers in reverse (from n to 1) - using while loop
3)   Write a C program to print all even numbers between 1 to 100. - using while loop

For loop

4)   Write a program in C to display the 10 odd natural number and their sum
5)   Write a program in C to display the pattern like right angle triangle using asterisk
6)   Write a program in C to make such a pattern like pyramid with asterisk
7)   Write a C program to calculate the factorial of a given number
8)   Write a C program to determine whether a given number is prime or not

Do-while loop

9)   Write a C program to print sum of all even numbers between 1 to n.
10)   Write a program to print the table of characters that are equivalent to the Ascii codes from 1 to 122