
Programming Fundamentals

BS (CS) _Fall_2025

Lab_09 Tasks



Learning Objectives:

1. For loop
2. Do-while loop

Lab Tasks

Submission Instructions

1. Name each Task question as **i25XXXX_Task<NO>** e.g. **i250000_Task9.cpp**
2. Compress all **.cpp** files into a **.zip** file, and name it as **ROLLNO_SEC_LAB09** e.g. **i25XXXX_A_LAB089**.
3. Now you have to submit this zipped file on Google Classroom.
4. If you don't follow the above-mentioned submission instruction, you will be marked **zero**.
5. Plagiarism in the Lab Task will result in **zero** marks in the whole category.

Zero Tasks

Q1. Rewrite the code using do-while loop

```
#include <iostream>
using namespace std;

int main()
{
    int n;
    cout << "Enter a non-negative integer: ";
    cin >> n;
    while (n < 0)
    {
        cout << "The integer you entered is negative." << endl;
        cout << "Enter a non-negative integer: ";
        cin >> n;
    }
}
```

Q2. Dry-run the question and write it on the paper

```

#include <iostream>
using namespace std;

int main() {
    int even = 0, odd = 0;
    int n = 20;

    for (int i = 1; i <= n; i++) {
        if (i % 2 == 0)
            even++;
        else
            odd++;
    }

    cout << "Even count = " << even << endl;
    cout << "Odd count = " << odd;
    return 0;
}

```

Lab Tasks

- Q3.** Write a C++ program which takes an integer number as input and checks whether the number entered by the user is a prime number. An integer is said to be a prime number if and only if n is greater than 1 and is divisible only by 1 and n . For example, 17 and 29 are prime numbers, whereas, 1 and 28 are not prime numbers. This process should continue until the user enters a negative number.

```

Enter the number: 5
The number you entered is prime.
Enter the number: 12
The number you entered is not prime.
Enter the number: -9

```

Solve the question using for-loop

- Q4.** Write a program in C++ to find the Greatest Common Divisor (GCD) of two numbers using do-while loop

Sample Output:

Input the first number: 25

Input the second number: 15

The Greatest Common Divisor is: 5

Q5. Draw the following pattern **using nested loop**

```
1 2 3 4 5
1 2 3 4
1 2 3
1 2
1
```

Q6. Draw the following pattern **using nested loop**

```
*****
****  ****
***    ***
**      **
*        *
*        *
**       **
***      ***
****     ****
*****
```