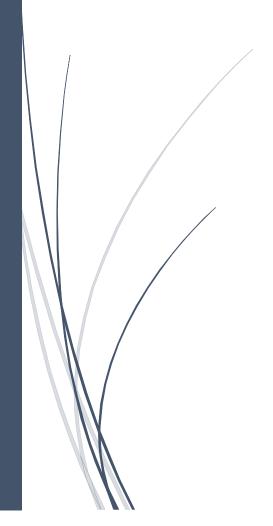
4/25/2021

# Programming Fundamentals

Lab Manual 9



### LAB 9 Manual

## **Programming Fundamentals**

#### **LAB TOPIC: Nested FOR Loop and Nested While loop**

Nested loop means a loop statement inside another loop statement. That is why nested loops are also called as "loop inside loop".

# **Syntax for Nested For loop:**

```
for ( initialization; condition; increment ) {
   for ( initialization; condition; increment ) {
      // statement of inside loop
   }
   // statement of outer loop
}
Syntax for Nested While loop:
while(condition) {
   while(condition) {
      // statement of inside loop
   }
  // statement of outer loop
}
```

## Example Program of FOR nested loop in C++

```
C++ program to display 7 days of 3 weeks

#include <iostream>
using namespace std;

int main() {
    int weeks = 3, days_in_week = 7;

for (int i = 1; i <= weeks; ++i) {
        cout << "Week: " << i << endl;

        for (int j = 1; j <= days_in_week; ++j) {
            cout << " Day:" << j << endl;
        }
    }

    return 0;
}</pre>
```

# **Output**

```
Week: 1
    Day:1
    Day:2
    Day:3
    ......
Week: 2
    Day:1
    Day:2
    Day:3
    .......
```

#### **Lab Tasks**

1. Calculate the average score of each player using the chart given:

1st player: 286 262 265

2nd player: 212 152 215

3rd bowler: 365 432 216

4th bowler: 192 154 235

Use for nested loop to input the score for each player without using separate variables for input scores.

- 2. A person goes to office three days Friday, Monday and Wednesday in a week. For a day he gets a salary of 20\$. Display the salary he gets for 4 weeks in a month with the respective day number along with a particular week number.
- 3. Write a nested loop to form a number pyramid in the format given using a range of inputs. Don't hard code for 1 to 5.

2

44

666

8888

. . . . . .

- 4. Write a program to check whether from 550 to 700 how many of them are prime numbers and print them on the screen.
- 5. Write a program using nested for loop to print table of a range of numbers that user enters.

Sample table

Table of 5

5\*1=5

...

Table of 6

6\*1=6

....

Table of 7

7\*1=7

••••