National University of Computer and Emerging Sciences

**Course Session Manual 01
CS-1002 Programming Fundamentals**

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Section	A,F
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1 Objectives

After performing this lab, students shall be able to understand:
- ✓ Basics concepts of Programming Fundamentals
- ✓ Libraries to use
- ✓ Syntax

2   Exercise (50 Marks)

Complete all tasks given below

2.1   Using fixed and Scientific (10 Marks)

In this task you have to take data type of double and declare them as **double a, double b and double c** and set their value to **3.1415926534, 2006.0 and 1.0e-10** respectively also set the precision to 5 after that print the default values then also print the values by using fixed and scientific method and tell the difference between them in one to two lines for each.

std::setprecision()

std::fixed

std::scientific

2.2 Taking Inputs from User (10 Marks)

Take the input of **double** and set the value to **3.14159** then set precision

(std:: setprecision(6)) to 5 and 9 after that do the same with fixed method and also tell the difference of both in maximum 2 lines.

2.3 Using rand (10 Marks)

Using rand print any number between 1 and 100.

2.4 Using rand and srand (10 Marks)

Using rand and srand print the numbers between 1 and 10 randomly.

2.5 Set Width, Set Length, Set Fill (10 Marks)
Demonstration Task

Initialize an Integer and show the output of the code of before and after setting the width to 10.

```
#include <iomanip>

#include <iostream>

int main()

{

// Initializing the integer

    int num = 50;

    std::cout << "Before setting the width: \n"<< num << std::endl;

    // Using setw()

    std::cout << "Setting the width"<< " using setw to 5: \n" << std::setw(5);

    std::cout << num << std::endl;
```
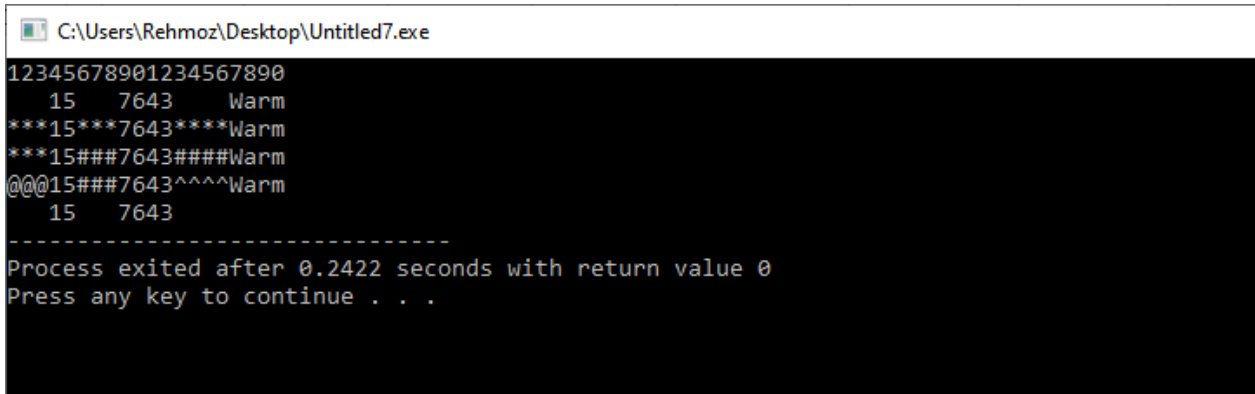
```
    return 0;

}
```

Task To DO!

Show the exact same output using set fill and set width

```
C:\Users\Rehmoz\Desktop\Untitled7.exe

12345678901234567890
   15   7643    Warm
***15***7643****Warm
***15###7643####Warm
@@@15###7643^^^^Warm
   15   7643
------------------------------
Process exited after 0.2422 seconds with return value 0
Press any key to continue . . .
```

3   Submission Instructions

Always read the submission instructions carefully.

- Rename your word file to your roll number
- Only submit the **word** file. DO NOT **zip** or **rar** your submission file □ Submit this file on Google Classroom under the relevant assignment.
- Late submissions will not be accepted
- Comments in the code explaining chunks of the code is important.

- Plagiarism is strictly prohibited; 0 marks would be given to students who cheat.