Faculty of Engineering, University of Jaffna
Department of Computer Engineering
EC2010: Computer Programming
Lab 02

Lecturer: Dr, J. Jananie Instructors:

Learning part:

1. In C++, string is an object of **std::string** class that represents sequence of characters.
    a. Examples for some String methods.
        i. string Comparison using **strcmp()** function. ii. string concatenation using **strcat()** function. iii. copy the string using **strcp**y() function.
        iv. finding the string length using **strlen**() function
    b. String to int Conversion
        i. Example for string to int conversion

```
#include      <iostream>
#include <string>  using
namespace std;  int
main() {
 string  str  =  "7"   int
 num;
 num = stoi(str); //this is the Conversion method.
 String to int
}
```

For each of the questions,

1. First, create a C++ file and name it Lab02-RegNo, replacing the term RegNo with your University-issued RegNo.

2. Starting at the topmost line of the file, insert the following minimally required documentation, filling in your name, RegNo, the assignment number, due date and a brief description of what the program will do. You must select one of the two forms of certification of Authenticity. Submissions not including a certification of authenticity will not be graded.

// Your Name

// Your RegNo

// EC2010

//Group: [Insert the number]

// Lab: [Insert the number]

// Program Description: [insert brief description here]

// Certificate of Authenticity: (choose one from below)

// I certify that the code in the method function main of this project

// is entirely my own work.
(or)
// I certify that the code in method function main of this project is

// entirely my own work, but I received assistance from [insert name/book/lectureslides].

// Follow this with a description of the type of assistance.

Q1) Implement and place the output of following code extractions.

a)

```
int main()
    {
    cout << "Hello world!\nL\nets\nLe\na\nr\n\\nn";
     }
```

b)

```
int main()
    {
    cout << "Welcome to the Programming!\n";
    cout << "It's going to be an interesting module."<<"\n";
     }
```

c)

```
int main()
    {
        double length = 10;
        cout<< length++ << endl;
        cout<< ++length;
        return 0;

    }
```

Q2)

Write a C++ program Expression following the Statements below.
You need to read the choice (1-3) from the user. After that you need to perform that choice
(1. Inches to Centimeters

2. Pounds to Kilograms

3. Miles to Kilometers) depending on user input.
Your output should be like in the below picture. (You may read the numbers with spaces / next line)

1 inch = 2.54 cm
1 pound = 0.453592 kg
1 mile = 1.60934 km

Output:-

```
Unit Converter:
1. Inches to Centimeters
2. Pounds to Kilograms
3. Miles to Kilometers
Enter your choice (1-3): 2
Enter pounds: 5
5 pounds = 2.26796 kilograms
```

Test your programs for choices and paste the outputs (console) into a Word/PDF file named "lab02_Regno_Output".

Q3)

Write a C++ program to take the radius of a Sphere as an input and print Surface Area and Volume of that Sphere respectively.

Surface Area (S) of a Sphere is given by $S = 4\pi r^2$

Volume (V) of a Sphere is given by $V = (4/3)\pi r^3$

Π (PI) = 3.14

```
Enter the radius of the Sphere:
7
Surface Area of the Sphere is = 615.44
Volume of the Sphere is = 343
```

-*Any plagiarized work will be given 0 marks*-

Create a zip file named LAB02_20YYEXXX (20YYEXXX – Your Registration Number). It should include CPP project "Lab02-RegNo" folder, "lab02_Regno_Output" file, and "Output_Regno" file.

Submit the zip file LAB02_20YYEXXX before the given deadline via teams in the assignment “Lab02-GroupNo”.
Recheck: The zip file should contain all “.cpp” code files and your lab output files.