Name:Musadique Hussain   *Roll no: SE-21031*

Lab Session 2

Lab 2.1

(3 points) Exercise 1: Retrieve `name.cpp` and fill in the code as instructed by the lab manual. Make sure your completed program produces the output shown in the example. Attach the printout of the completed `name.cpp`

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

int main() {

    cout << "Deano Beano " << endl;
    cout << "123 Markadella Lane " << endl;
    cout << "Fruitland, MD. 5503 " << endl;
    cout << "489-555-5555" << endl;

    system("pause>0");
    return 0;
}
```

```
E:\Study Materials\C++\Laugh death\x64\Debug\Laugh death.exe
Deano Beano
123 Markadella Lane
Fruitland, MD. 55503
489-555-5555
```

(3 points) Exercise 2 and 3: Modify the program you wrote in exercise 1, according to the lab manual instructions for exercise 2 and 3. Attach the printout of the modified `name.cpp`

Exercise 2

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

int main() {

    cout << "Deano Beano " << endl;
    cout << "123 Markadella Lane " << endl;
    cout << "Fruitland, MD. 5503 " << endl;
    cout << endl;
    cout << endl;
    cout << endl;
    cout << "489-555-5555" << endl;

    system("pause>0");
    return 0;
}
```

```
E:\Study Materials\C++\Laugh death\x64\Debug\Laugh death.exe
Deano Beano
123 Markadella Lane
Fruitland, MD. 55503



489-555-5555
```

Exercise 3

```cpp
1    #include <iostream>
2    using namespace std;
3
4    int main() {
5
6        cout << "Musadique Hussain " << endl;
7        cout << "Gulshan iqbal block no 3 " << endl;
8        cout << "Larkana, Md. 1111 " << endl;
9        cout << "033-551-7651" << endl;
10
11       system("pause>0");
12       return 0;
13   }
```

```
E:\Study Materials\C++\Laugh death\x64\Debug\Laugh death.exe
Musadique Hussain
Gulshan iqbal block no 3
Larkana, Md. 1111
033-551-7651
```

Lab 2.2

(3 points) Exercise 1 and 2: Retrieve `circlearea.cpp` and fill in the code as instructed by the lab manual. Make sure your completed program produces the output shown in the exercise 2. Attach the printout of the completed `circlearea.cpp`
Exercise 1 & 2:

```cpp
1    //This program will output the circumference and area
2    //of the circle with a given radius.
3
4    //Musadiuqe Hussain
5
6    #include <iostream>
7    using namespace std;
8
9    const double PI = 3.14;
10   const double RADIUS = 5.4;
11
12   int main() {
13
14       //defination of area of circle:The region enclosed the boundary of a circle is called area of circle
15       float circumference; //defination of circumference: The linear distance around a circle.
16       float area;
17       circumference = 2 * PI * RADIUS;
18       area = PI * RADIUS * RADIUS;
19
20       cout << "The circumferenence of circel is " << circumference << endl;
21       cout << "The area of the circle " << area << endl;
22
23       system("pause>0");
24       return 0;
25   }
```

```
E:\Study Materials\C++\Laugh death\x64\Debug\Laugh death.exe
The circumferenence of circel is 33.912
The area of the circle 91.5624
```

(1 point) Exercise 3a. Change the data type for the circumference variable from float to int in `circlearea.cpp` and record the results below:

Circumference of the circle	33.912
Area of the circle	91.5624

(2 points) Explain why the results in Exercise 3 is different from Exercise 1 and 2:

The value of circumference in exercise 3 is different form exercise 1 and 2 because in exercise 1 and 2 we have assigned circumference as a float variable and in exercise 3 we assigned circumference as an int variable so by changing variable from float to int. The complier will only consider the values before decimal only.

Lab 2.3

(3 points) Exercise 1 and 2: Using lab 2.2 as an example, develop a program that will determine the area and perimeter of a rectangle, and name it `rectangle.cpp`. Make sure your program produces the output described in exercise 2 of the lab manual. Attach the printout of `rectangle.cpp`
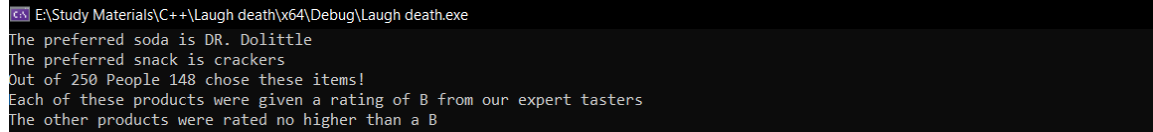
```
1    #include <iostream>
2    using namespace std;
3
4    const int LENGTH = 8;
5    const int WIDTH = 3;
6
7    int main() {
8
9        int area;
10       int perimeter;
11       area = LENGTH * WIDTH;
12       perimeter = 2 * (WIDTH + LENGTH);
13
14       cout << "The area of rectangele is " << area << endl;
15       cout << "The perimeter of the rectangle is " << perimeter << endl;
16
17       system("pause>0");;
18       return 0;
19   }
```

```
E:\Study Materials\C++\Laugh death\x64\Debug\Laugh death.exe
The area of rectangele is 24
The perimeter of the rectangle is 22
```

Lab 2.4

(3 points) Exercise 1 and 2: Retrieve `stringchar.cpp` and fill in the code as instructed by the lab manual. Make sure your completed program does not contain any syntax, run-time, or logic errors. Attach the printout of `stringchar.cpp`

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

//Defination of constants
const string FAVORITESODA = "DR. Dolittle";
const char BESTRATING = 'A';
const string favoriteSnack = "crackers";

int main() {

    char rating = 'B';
    int numberOFPeople = 250;
    int topChoiceTotal = 148;

    //Fill in the blanks
    cout << "The preferred soda is " << FAVORITESODA << endl;
    cout << "The preferred snack is " << favoriteSnack << endl;
    cout << "Out of " << numberOFPeople << " People "
         << topChoiceTotal << " chose these items!" << endl;
    cout << "Each of these products were given a rating of " << rating;
    cout << " from our expert tasters " << endl;
    cout << "The other products were rated no higher than a " << rating << endl;

    system("pause>0");
    return 0;
}
```

```
E:\Study Materials\C++\Laugh death\x64\Debug\Laugh death.exe
The preferred soda is DR. Dolittle
The preferred snack is crackers
Out of 250 People 148 chose these items!
Each of these products were given a rating of B from our expert tasters
The other products were rated no higher than a B
```

(1/2 point) Extra credit: Is it possible to change the choice of FAVORITESODA by adding code within the main module of the program? Why or why not?

No we can't change the value its because FAVORITESODA is out of main program and it is constant.

(1/2 point) Extra credit: Is it possible to change the choice of favoriteSnack by adding code within the program? Why or why not?

Yes we can change the favoriteSnack because its in the main program and it is not constant that's why it could be changed.