

COSC 120-002 Lab 1_2 Report
Charles Reigle

Lab 1_2.1

Source Code

```
main.cpp X rectangle.cpp X
1 //Program takes 2 forms of input, length and width. It then prints a rectangle with the given dimensions
2
3 //Charles Reigle
4
5 #include <iostream>
6
7 using namespace std;
8
9 //Because I hate the fact that C++ does not have a println() function line java
10 void println(string str)
11 {
12     cout << str << endl;
13 }
14
15 int main()
16 {
17     int width = 1;
18     int height = 1;
19     cout << "This program will print out a rectangle with a specified width and height." << endl;
20     cout << "Please input a width in numerical form:" << endl;
21     cin >> width;
22     cout << "Please input a height in numerical form:" << endl;
23     cin >> height;
24
25     //In reality, we only need to form one string and just copy it.
26     //There's no need to form a new string for each row, the string should be the same each time
27
28     string line = "";
29     for(int j = 1; j <= width; j++)
30     {
31         line += " ";
32     }
33
34     for(int i = 1; i <= height; i++)
35     {
36         println(line);
37     }
38
39 }
```

Output

```
"C:\Users\ccrei\Documents\COSC 120\Labs\Lab1_2\Lab1_2\bin\Debug\Lab1_2.exe"
This program will print out a rectangle with a specified width and height.
Please input a width in numerical form:
10
Please input a height in numerical form:
3
*****
*****
*****

Process returned 0 (0x0)   execution time : 2.227 s
Press any key to continue.
```

Lab 1_2.2

Source Code

```
profit.cpp x
1 //Program used to calculate profit based on the input revenue
2
3 //Charles Reigle
4 #include <iostream>
5
6 using namespace std;
7
8 int main()
9 {
10     const double PROFIT_PERCENT = 0.13;
11     double profit = 0;
12     int revenue = 0;
13
14     cout << "Enter the total revenue for the year: " << endl;
15     cin >> revenue;
16     profit = revenue * PROFIT_PERCENT;
17     cout << "The profit is: $" << profit << endl;
18
19     return 0;
20 }
21
```

Output

```
Enter the total revenue for the year:
15000
The profit is: $1950

Process returned 0 (0x0)   execution time : 7.482 s
Press any key to continue.
```

Lab 1_2.3

Source Code

```
*distance.cpp X
1 //Program that takes a time in hours and tells you how far you will go based on an input speed
2
3
4 //Charles Reigle
5 #include <iostream>
6
7 using namespace std;
8
9 void calcDist(int speed)
10 {
11     int time = 0;
12     int distance = 0;
13
14
15     cout << "To calculate how far you will be, enter a number in hours: " << endl;
16     cin >> time;
17
18     distance = speed * time;
19
20     cout << "The distance the car will travel in " << time << " hours is " << distance << " miles." << endl;
21
22     calcDist(speed);
23 }
24
25 int main()
26 {
27     int speed = 0;
28
29     cout << "Please input how fast you are going, in miles per hour: " << endl;
30     cin >> speed;
31
32     //The reason it is setup into 2 functions is to allow the user to calculate as many times as they want
33     //without restarting the program. This is mainly because I don't feel like taking multiple screenshots for
34     //each output and want to touch up on main loops.
35
36     calcDist(speed);
37
38     return 0;
39 }
```

Output

```
Please input how fast you are going, in miles per hour:
58
To calculate how far you will be, enter a number in hours:
6
The distance the car will travel in 6 hours is 348 miles.
To calculate how far you will be, enter a number in hours:
10
The distance the car will travel in 10 hours is 580 miles.
To calculate how far you will be, enter a number in hours:
15
The distance the car will travel in 15 hours is 870 miles.
```

Lab 1_2.4

Source Code

```
milespergallon.cpp x
1  //A program that takes an input of miles driven and gallons used to calculate MPG
2
3  //Charles Reigle
4
5  #include <iostream>
6
7  using namespace std;
8
9  int main()
10 {
11     double used = 0;
12     double distance = 0;
13     double mpg = 0;
14
15     cout << "This program will calculate the Miles Per Gallon of your trip." << endl;
16     cout << "Enter in the amount of gas, in gallons, used: " << endl;
17     cin >> used;
18     cout << "Enter in the distance traveled: " << endl;
19     cin >> distance;
20
21     cout << distance << endl;
22     cout << used << endl;
23
24     mpg = (distance / used);
25
26     cout << "The MPG rate of the car is: " << mpg << " gallons." << endl;
27
28     return 0;
29 }
```

Output

```
This program will calculate the Miles Per Gallon of your trip.
Enter in the amount of gas, in gallons, used:
10
Enter in the distance traveled:
100
100
10
The MPG rate of the car is: 10 gallons.

Process returned 0 (0x0)   execution time : 3.452 s
Press any key to continue.
```

Lab 1_2.5

Source Code

```
1 //A program used to convert Celsius to Fahrenheit
2
3 //Charles Reigle
4 #include <iostream>
5
6 using namespace std;
7
8 int main()
9 {
10     double c = 0;
11     double f = 0;
12
13
14     cout << "This program will take a temperature in Celsius and return it in Fahrenheit" << endl;
15     cout << "Enter in the temperature in Celsius: " << endl;
16     cin >> c;
17
18     f = ((9.0/5.0)*c) + 32;
19
20     cout << "The temperature in Fahrenheit is " << f << " degrees." << endl;
21
22     return 0;
23 }
24
```

Output

```
This program will take a temperature in Celsius and return it in Fahrenheit
Enter in the temperature in Celsius:
100
The temperature in Fahrenheit is 212 degrees.

Process returned 0 (0x0)   execution time : 2.485 s
Press any key to continue.
```