COSC 120-751 Lab 1

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Lab 1

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Lab 1.1

Source Code:

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

int main()
{
	cout << "Now is the time for all good men" << endl;
	cout << "To come to the aid of their party" << endl;

	return 0;
}
```

Output:

Now is the time for all good men

To come to the aid of their party

Question Answer:

The program output what was in quotes on the lines that said cout.

Lab 1.2

Source Code:

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

int main()
{
	int number;
	float total;

	cout << "Today is a great day for Lab";
	cout << endl << "Let's start off by typing a number of your choice" << endl;
	cin >> number;

	total = number * 2;
	cout << total << " is twice the number you typed" << endl;

	return 0;
}
```

Output:

```
Today is a great day for Lab
Let's start off by typing a number of your choice
9
18 is twice the number you typed
```

Question Answer:

The error in the program was a syntax error after one of the statements. It was missing a semicolon.

Lab 1.3

Source Code:

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

int main()
{
	float number;
	int divider;

	divider = 2;

	cout << "Hi there" << endl;
	cout << "Please input a number and then hit return" << endl;
	cin >> number;

	number = number / divider;

	cout << "Half of your number is " << number << endl;

	return 0;
}
```

Output:

```
Hi there
Please input a number and then hit return
9
Half of your number is 4.5
```

Question Answer:

The issue with the program was a runtime error. The issue was a variable called divider was assigned 0 as its value. It was then used to divide a number, which can't be done. This was corrected by assigning 2 to divider.

Lab 1.4

Source Code:

```
#include <iostream>

using namespace std;


int main()

{

	float firstNumber;

	float secondNumber;

	float tempNumber;


	// Prompt user to enter the first number.

	cout << "Enter the first number" << endl;

	cout << "Then hit enter" << endl;

	cin >> firstNumber;


	// Prompt user to enter the second number.

	cout << "Enter the second number" << endl;

	cout << "Then hit enter" << endl;

	cin >> secondNumber;


	// Echo print the input.

	cout << endl << "You input the numbers as " << firstNumber

		<< " and " << secondNumber << endl;
```

```
        // Now we will swap the values.
        tempNumber = firstNumber;
        firstNumber = secondNumber;
        secondNumber = tempNumber;

        // Output the values.
        cout << "After swapping, the values of the two numbers are "
                << firstNumber << " and " << secondNumber << endl;

        return 0;
}
```

Output:

Enter the first number

Then hit enter

2

Enter the second number

Then hit enter

4

You input the numbers as 2 and 4

After swapping, the values of the two numbers are 4 and 2

Question Answer:

The issue with the program was a logic error. There were two variables which had the values switched. The issue was there were only two variables to exchange, but there was no temp variable to take one of the values so one can be assigned to the other one. By adding a third temp variable, the first variable was assigned to the temp variable, then the second variable was assigned to the first, and the temp value was assigned to the second variable, which then made it so the values were swapped.

Lab 1.5

Source Code:

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

int main()
{
   float kilo = 0;
   float miles = 0;
   cout << "This program will convert kilometers to miles." << endl;
   cout << "Enter kilometers travelled: " << endl;
   cin >> kilo;
   miles = kilo * 0.621;
   cout << "Miles travelled: " << miles;
   return 0;
}
```

Output:

```
This program will convert kilometers to miles.
Enter kilometers travelled:
9
Miles travelled: 5.589
```

Question Answer:

This exercise wanted us to write a program from scratch that took user input for kilometers and converted it into miles. This was done by assigning user input to a variable called kilo, then assigning miles = kilo*0.621. The program then output the result in miles.