Lab 04 - Functions & Selection Statements

Direction: Submit your typed work(s) as an upload(s) to the Labs directory of your GitHub repository or Dropbox, or in your correct Lab04 google classroom assignment. Each part should be a separate files. The files named should be "lab4A.txt" and "lab4B.cpp" respectively.

Part A: In class

Your objective is to write ONLY the line number and the entire corrected line for each line that has a **syntax error** in the code segment below.

```
01  void G(int a,int& b)
02  {
03    int r = (a - b) * (a * a + a * b + b * b);
04    b = r
05    return;
06  }
07
08  int main()
09  {
10    int s;
11
12    cout << 'Enter a number: ';
13    cin >> s;
14
15    G(s,3);
16    cout << s << '\n';
17    G(4,s);
18    cout << s << "\n";
19    Return 0;
20  }
```

Part B: Take home

Your objective is to write a complete cpp program that defines the following functions and calls them in the main function.

☐ An int function named `RealRootsCount()` that takes three double parameters named a, b and c respectively. Given that the parameters are the coefficients of a quadratic equation of the form

$$ax^2 + bx + c = 0$$

, the function returns the number of real roots (zeroes) of the equation.
Hint: Think about the quadratic formula.

☐ A void function named `TemperatureConverter()` that takes a double reference parameter and two char parameters respectively named *Temp*, *From* and *To*. It assigns *Temp* the conversion of the temperature that equals *Temp* in the unit that corresponds to *From* to the unit that corresponds to *To* if both *From* and *To* are valid units; otherwise, it does nothing. The valid units are `'F'` and `'C'` for Fahrenheit and Celsius respectively, but the case does not matter.

☐ A double function named `NonNegativeMean()` that takes five double parameters. It returns the average of only the nonnegative parameters. If all the parameters are negative, it returns 0.