COSC 1336 – Programming Fundamentals I
Program 8 – Simple Functions

The quadratic formula is used to solve a very specific type of equation, called a *quadratic equation*. These equations are usually written in the following form:

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

The Quadratic Formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Where ***a***, ***b***, and ***c*** are constants with ***a* ≠ 0**. (If ***a* = 0**, the equation is a linear equation.)

The **discriminant** is the part of the formula in the square root. If the value of the discriminant is zero then the equation has a single real root. If the value of the discriminant is positive then the equation has two real roots. If the value of the discriminant is negative, then the equation has two complex roots.

Write a program that finds the roots of the quadratic equation using the Quadratic Formula. Write a function in the file, Disc.py, to calculate and return the discriminant of the formula and the main function to call the discriminant function and calculate the solution(s) of the equation.

Do not use any global variables. **You will not get credit for the program if you do.**

Run 1	**Run 2**	**Run 3**	**Run 4**
a = 1	a = 1	a = 2	a = 4
b = 2	b = -12	b = 9	b = 6
c = -8	c = 36	c = -5	c = 20

Run your program four times with the data above. Copy and paste the outputs to a file. Create a folder named, **fullname_program8**. Copy your source code and the output file to the folder. Zip the folder and upload it to Blackboard.