Problem 1

We know that a quadratic equation with coefficients a, b, and c of the form

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

has the two solutions

$$x_{1,2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}.$$

Uncomment the two lines of code below and complete the function to return the correct solutions to the quadratic equation given `a`, `b`, and `c` as arguments to the function.

Notes:

- A comment in Python starts with `#`. This means these lines will not be run during the execution of the function. The word *uncomment* in the context of programming means to delete the `#` and make these lines active in the program.
- Recall that the square root a variable x, i.e. $\sqrt{x}$, can also be written as $x^{0.5}$.
- The standard order of operations for mathematics applies here.
- Recall that the code below only *defines* the function. You have to *execute* the function on a separate line, defining the arguments `a`, `b`, and `c` as numbers, to test the functions output.

In [ ]:
```
def quadratic_equation(a, b, c):

    ans1 = (-b+(b**2-4*a*c)**0.5)/(2*a)
    ans2 = (-b-(b**2-4*a*c)**0.5)/(2*a)

    return (ans1, ans2)
```

$$x^2 - 7x + 12 = 0$$

In [ ]:
```
num1=1
num2=-7
num3=12
my_var=quadratic_equation(num1,num2,num3)
```

In [ ]:
```
my_var
```

Out[ ]:
```
(4.0, 3.0)
```

Problem 2

Uncomment the line of code below and write a string that is formatted to return

```
"Hello, World! My name is John!"
```

where `"John"` can be replaced with any `name` that is given as an argument to the function. For example, calling the function as

```
hello_world_with_name("Romeo")
```

will return

```
"Hello, World! My name is Romeo!"
```

and calling the function as

```
hello_world_with_name("Juliet")
```

will return

```
"Hello, World! My name is Juliet!"
```

方法一： " " + " "

In [ ]:
```
def hello_world_with_name(name):

    ans = "Hello, World! My name is "+ name + "!"

    return ans
```

In [ ]:
```
my_str=hello_world_with_name("Juliet")
```

In [ ]:
```
my_str
```

Out[ ]:
```
'Hello, World! My name is Juliet!'
```

方法二： "{}".format()

In [ ]:
```
def hello_world_with_name2(name):

    ans = "Hello, World! My name is {}!".format(name)

    return ans
```

In [ ]:
```
my_str2=hello_world_with_name2("John")
```

In [ ]:
```
my_str2
```

Out[ ]:
```
'Hello, World! My name is John!'
```

方法三： join command

In [ ]:
```
def hello_world_with_name3(name):

    ans = "".join(['Hello, World! My name is ', name, '!'])

    return ans
```

In [ ]:
```
my_str3=hello_world_with_name3("Romeo")
```

In [ ]:
```
my_str3
```

Out[ ]:
```
'Hello, World! My name is Romeo!'
```