In [2]:
```
#Exercise 1

#Answer 1.1:

print("It\'s raining now.")

#Answer 1.2:

print("\"\\\\\" is a double backslash")

#Answer 1.3:

print("1\t2\t3")
```

```
It's raining now.
"\\" is a double backslash
1       2       3
```

In [3]:
```
#Exercise 2

#Answer 2.1:

X = int(input("Enter X: ")) #type conversion to integer, as by default input takes val
Y = int(input("Enter Y: ")) #type conversion to integer, as by default input takes val

#Answer 2.2:

#Condition to check for same values of X and Y, as we'll get a ZeroDivisionError other

if (X==Y):
    print("Both inputs are the same. Please enter a different value for Y")
    Y = int(input("Enter Distinct second integer Y: "))

result1 = int((X+Y)/(X-Y)) #type conversion to integer, as division results in float
result2 = pow((X-Y), 3)

print("(X+Y)/(X-Y) =", result1)
print("(X-Y)^3 =", result2)

#Answer 2.3:

lastDigit = (X+Y)%10

print("The last digit of X+Y is:",lastDigit)
```

```
Enter X: 15
Enter Y: 10
(X+Y)/(X-Y) = 5
(X-Y)^3 = 125
The last digit of X+Y is: 5
```

In [4]:
```
#Exercise 3

import math #importing the math package to perform square root calculations later

#Answer 3.1:

a = int(input("Enter a:"))
b = int(input("Enter b:"))
```

```
c = int(input("Enter c:"))

#Answer 3.2:

#To calculate the roots of a quadratic equation, we need to calculate the determinant

x = pow(b,2)-(4*a*c)

#Post that, we check if the value is less than, greater than, or equal to 0.
#If value is less than 0, there is no solution. If value is equal to 0, there is one r
#reference: https://mathsathome.com/the-discriminant-quadratic/

if x < 0:
    print("No solution")

elif x >= 0:
    root1 = int((-b-math.sqrt(x))/(2*a)) #type conversion
    root2 = int((-b+math.sqrt(x))/(2*a)) #type conversion
    print("The roots are", root1, "and", root2)
```

```
Enter a:1
Enter b:-8
Enter c:15
The roots are 3 and 5
```

In [5]:

```
#Exercise 4

#taking user input first

temperature = int(input("Please enter the temperature:"))
unit = input("Is this Celsius or Fahrenheit?")

#now using conditional statements, we check if the user inputs a "C" or "c" for Celciu
#everything else can be considered an invalid input

if unit == 'C':
    f_temp = int((temperature*(9/5))+32) #type conversion to int, as the result reques
    print("{}{} is {} in Fahrenheit".format(temperature, unit, f_temp)) #used string f

elif unit == 'F':
    c_temp = int((5/9)*(temperature-32)) #type conversion to int, as the result reques
    print("{}{} is {} in Celsius".format(temperature, unit, c_temp)) #used string form
```

```
Please enter the temperature:60
Is this Celsius or Fahrenheit?C
60C is 140 in Fahrenheit
```

In [ ]: