In [5]:
```
#12Write a python program to find whether a number is prime or composite.

def is_prime(num):
    if (num > 1) :
        for n in range(2,num):
            if num%2 ==0:
                print('Not Prime')
                break
        else:
             print('Prime')
    elif num == 0 or 1 :
        print('Neither Prime Nor Composite')
    else:
            print('Composite No')
```

In [2]:
```
is_prime(23)
```

```
Prime
```

In [3]:
```
is_prime(5)
```

```
Prime
```

In [4]:
```
is_prime(6)
```

```
Not Prime
```

In [6]:
```
is_prime(23)
```

```
Prime
```

In [7]:
```
is_prime(0)
```

```
Neither Prime Nor Composite
```

In [8]:
```
is_prime(2)
```

```
Prime
```

In [9]:
```
is_prime(3)
```

```
Prime
```

In [10]:
```
#14 Write a Python program to get the third side of right-angled triangle from two given sides.

def pythagoras(opposite_side,adjacent_side,hypotenuse):
        if opposite_side == str("x"):
            return ("Opposite = " + str(((hypotenuse**2) - (adjacent_side**2))**0.5))
        elif adjacent_side == str("x"):
            return ("Adjacent = " + str(((hypotenuse**2) - (opposite_side**2))**0.5))
        elif hypotenuse == str("x"):
            return ("Hypotenuse = " + str(((opposite_side**2) + (adjacent_side**2))**0.5))
        else:
            return "You know the answer!"

print(pythagoras(6,8,'x'))
print(pythagoras(6,'x',10))
print(pythagoras('x',8,10))
print(pythagoras(6,8,10))
```

```
Hypotenuse = 10.0
Adjacent = 8.0
Opposite = 6.0
You know the answer!
```

In [11]:
```
#15 Write a python program to print the frequency of each of the characters present in a given string.

test_str = "Hi,This is a random string"

all_freq = {}

for i in test_str:
    if i in all_freq:
        all_freq[i] += 1
    else:
        all_freq[i] = 1
print('Count of all characters in given string is :\n ',str(all_freq))
```

```
Count of all characters in given string is :
  {'H': 1, 'i': 4, ',': 1, 'T': 1, 'h': 1, 's': 3, ' ': 4, 'a': 2, 'r': 2, 'n': 2, 'd': 1, 'o': 1, 'm': 1, 't': 1, 'g': 1}
```

In [19]:
```
#11 Write a python program to find the factorial of a number.
def fact(n):
    if n < 0:
        return 0
    elif n == 0 or n == 1:
        return 1
    else:
        fact = 1
        while(n > 1):
            fact *= n
            n -= 1
        return fact
```

In [17]:
```
fact(4)
```

Out[17]:
```
24
```

In [18]:
```
fact(6)
```

Out[18]:
```
720
```

In [20]:
```
fact(5)
```

Out[20]:
```
120
```

In [ ]:
```

```

In [ ]:
```

```

In [5]:
```
#13. Write a python program to check whether a given string is palindrome or not.

str = input('Enter a string: ')

str = str.casefold()

rev_str = reversed(str)

if list(str) == list(rev_str):
    print('It is palindrome')
else:
     print('It is not palindrome')
```

```
Enter a string: kayak
It is palindrome
```

In [ ]:
```

```

In [ ]:
```

```