A] To find the factorial of a number

In [2]:
```
# change the value for a different result
num = 7

# To take input from the user
#num = int(input("Enter a number: "))

factorial = 1

# check if the number is negative, positive or zero
if num < 0:
   print("Sorry, factorial does not exist for negative numbers")
elif num == 0:
   print("The factorial of 0 is 1")
else:
   for i in range(1,num + 1):
       factorial = factorial*i
   print("The factorial of",num,"is",factorial)
```

```
The factorial of 7 is 5040
```

B] Program to check if a string is palindrome or not

In [7]:
```
my_str = 'aIbohPhoBiA'

# make it suitable for caseless comparison
my_str = my_str.casefold()

# reverse the string
rev_str = reversed(my_str)

# check if the string is equal to its reverse
if list(my_str) == list(rev_str):
   print("The string is a palindrome.")
else:
   print("The string is not a palindrome.")
```

```
The string is a palindrome.
```

C] To find wheather a number is prime or composite

In [9]:
```
num = int(input("Enter any number : "))
if num > 1:
    for i in range(2, num):
        if (num % i) == 0:
            print(num, "is NOT a prime number")
            break
    else:
        print(num, "is a PRIME number")
elif num == 0 or 1:
    print(num, "is a neither prime NOR composite number.")
else:
    print(num, "is a prime number")
```

```
Enter any number : 2
2 is a PRIME number
```

D] Python program to get the third side of right angled triangle from two given sides

In [11]:
```
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(3,4,'x'))
print(pythagoras(3,'x',5))
print(pythagoras('x',4,5))
print(pythagoras(3,4,5))
```

```
Hypotenuse = 5.0
Adjacent = 4.0
Opposite = 3.0
You know the answer!
```

E] Program to print the frequency of each of the characters present in a given number

In [21]:
```
 # each occurrence frequency using
# collections.Counter()
from collections import Counter

# initializing string
test_str = "GeeksforGeeks"

# count of each element in string
res = Counter(test_str)

# printing result
print ("Count of all characters in GeeksforGeeks is :\n "
                                          +  str(res))
```

```
Count of all characters in GeeksforGeeks is :
 Counter({'e': 4, 'G': 2, 'k': 2, 's': 2, 'f': 1, 'o': 1, 'r': 1})
```

In [ ]:
```
THANK YOU!
```