1. Python program to find the factorial of the number

In [12]:
```
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 [16]:
```
n=4
print("the factorial of",n,"is",fact(n))
# output for n=4
```

```
the factorial of 4 is 24
```

In [17]:
```
fact(5)
# output for n=5
```

Out[17]:
```
120
```

In [18]:
```
fact(8)
# output for n=8
```

Out[18]:
```
40320
```

2. Python program to find whether the number is prime or composite

In [23]:
```
num=int(input("enter the value of the number"))
i=1
count=0
while(num >= i):
    if(num%i==0):
        count += 1
    i += 1
if(count == 2):
    print("%d is a prime number" % num)
else:
    print("%d is a composite number" % num)
```

```
enter the value of the number13
13 is a prime number
```

In [25]:
```
num=int(input("enter the value of the number"))
i=1
count=0
while(num >= i):
    if(num%i==0):
        count += 1
    i += 1
if(count == 2):
    print("%d is a prime number" % num)
else:
    print("%d is a composite number" % num)
```

```
enter the value of the number24
24 is a composite number
```

3. python program to check whether a given string is palindrome or not

In [29]:
```
string = input("enter the String")
if(string == string[:: - 1]):
    print("The given string is a palindrome")
else:
    print("The given string is not a palindrome")
```

```
enter the Stringaabbaa
The given string is a palindrome
```

In [30]:
```
string = input("enter the String")
if(string == string[:: - 1]):
    print("The given string is a palindrome")
else:
    print("The given string is not a palindrome")
```

```
enter the Stringabcde
The given string is not a palindrome
```

4. Python program to get the third side of right-angled triangle from two given sides

In [33]:
```
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))**
    else:
        return "Answer is known"
print(pythagoras(3,4,'x'))
print(pythagoras(3,'x',5))
print(pythagoras('x',4,5))
```

```
hypotenuse = 5.0
adjacent = 4.0
opposite = 3.0
```

5. python program to print the frequency of each of the character in a given string.

In [1]:
```
exmp_str="Life is precious"
print("The given string is",exmp_str)
result={}
result={n: exmp_str.count(n) for n in set(exmp_str)}
print("The frequency of each character is :\n",result)
```

```
The given string is Life is precious
The frequency of each character is :
 {'L': 1, 'e': 2, 'f': 1, 'c': 1, 's': 2, 'p': 1, ' ': 2, 'o': 1, 'u': 1, 'i':
3, 'r': 1}
```

In [ ]: