I. Functions

1. Write a Python function to calculate the factorial of a number **(a non-negative integer)**. The function accepts the number as an argument.

In [22]:
```
def factorial(number):
    if number == 0:
        return 1
    else:
        return number * factorial(number-1)
number=int(input("Input a number to compute the factiorial : "))
print(factorial(number))
```

```
Input a number to compute the factiorial : 5
120
```

2. Write a Python function to check whether a number is bigger than or equal to 3 but smaller or equal to 8 / [3,8]!

In [10]:
```
def test_range(number):
    if number in range(3,9):
        print( " %s is in the range"%str(number))
    else :
        print("The number is outside the given range.")
```

In [12]:
```
test_range(3)
```

```
 3 is in the range
```

3. Write a Python function that takes a list and returns a new list with only unique elements from the first list.

In [29]:
```
def list_of_unique_elements(list_of_non_unique_elements):
  x = []
  for i in list_of_non_unique_elements:
    if i not in x:
      x.append(i)
  return x

print(list_of_unique_elements([1,2,3,3,3,3,4,5]))
```

```
[1, 2, 3, 4, 5]
```

II. Classes

In [51]:
```
class Person:
    def __init__(self, age, weight, height, first_name, last_name):
        self.age = age
        self.weight = weight
        self.height = height
        self.first_name = first_name
        self.last_name = last_name

    def fullname(self):
        return '{} {}'.format(self.first_name, self.last_name)
```

In [52]:
```
user = Person(20, 180, 6.0, "Alex", "Song")
```

In [47]:
```
print(user.height)
```

```
6.0
```

In [53]:
```
user.fullname()
```

Out[53]:
```
'Alex Song'
```

1. Create a class for websites. Install **methods** to provide the sites name and the location. From the input you receive the page's title. As location simply use "the web".

In [54]:
```
class Website:
    def __init__(self,title):
        self.title=title
        self.location="the web"

    def showTitle(self):
        print(self.title)
    def showLocation(self):
        print(self.location)
```

In [55]:
```
obj=Website('pythonbasics.org')
```

In [57]:
```
obj.showTitle()
```

```
pythonbasics.org
```

In [56]:
```
obj.showLocation()
```

```
the web
```

2. Create a class for persons. As input you receive name and age. Create a method that outputs "Hello, my name is..." followed by the person's name.

In [66]:
```
class Person:
  def __init__(self, name, age):
    self.name = name
    self.age = age

  def myfunc(self):
    print("Hello, my name is " + self.name)
```

```
Hello, my name is John
```

In [ ]:
```
p1 = Person("John", 36)
```

In [67]:
```
p1.myfunc()
```

```
Hello, my name is John
```