# Module

- A group of functions, variables saved to a Python file (.py), which is nothing but module.

## Types of Modules

- **Inbuilt Module**
- **Userdefined Module**

# Various Possibilties of import:

- 1. import modulename
- 2. import module1,module2,module3
- 3. import module1 as m
- 4. import module1 as m1,module2 as m2, module3
- 5. from module import mumber
- 6. from module import member1,member2,member3
- 7. from module import member1 as x
- 8. from module import*

## We can access members by using module name

- modulename.variable
- modulename.function()

## Inbuilt Module

**Working with math module**

- python provides inbuilt module math
- This module defines several functions which can be used for mathematical operations.

In [1]:

```python
import math
```

In [ ]:

```python
help(math)
```

In [2]:

```
#option-1
import math
math.sqrt(4)
```

Out[2]:

2.0

In [3]:

```
#option-2
from math import *
sqrt(4)
```

Out[3]:

2.0

In [4]:

```
# option-3
from math import sqrt
sqrt(4)
```

Out[4]:

2.0

## 'Random' Module

- This module defines several functions to generate random numbers.
- We can use these functions while developing games,in cryptography and to generate random numbers on fly for authentication.

In [5]:

```
import random
```

In [6]:

```
#random() Function: This function always generate some float value between 0 and 1 (not
random.random()
```

Out[6]:

0.2661246170221485

In [7]:

```
# randint() Function: To generate random integer beween two given numbers(inclusive
random.randint(1,100)
```

Out[7]:

52

In [8]:

```
# randrange() Function: To generate random integer or intergers in given range
random.randrange(2,50,2)
```

Out[8]:

40

In [9]:

```
#choice() Function: It won't return random number.It will return a random object from th
list=["sunny","bunny","chinny","vinny"]

random.choice(list)
```

Out[9]:

'chinny'

# Userdefined Modules

**Working Directory**

- the location where your present jupyter notebook file is located

**to check the working directory**

In [10]:

```
pwd
```

Out[10]:

'D:\\NareshIT Classes\\01. Core Python'

In [11]:

```
import srk
```

**Note:**

- This will work, only when we have used defined module in our working directory

*Changing Working directory*

In [ ]:

```
cd D:\\Print\\01. Core Python
```

**Various options for import**

In [13]:

```python
# option-1

import srk
print(srk.x)
print(srk.add(10,20))
print(srk.sub(10,20))
```

99
30
-10

In [14]:

```python
# option-2

from srk import *

print(x)
print(add(10,20))
print(sub(10,20))
```

99
30
-10

In [15]:

```python
# option-3

from srk import x,add,sub

print(x)
print(add(10,20))
print(sub(10,20))
```

99
30
-10

In [16]:

```
#option-4

import srk as m
print(m.x)
print(m.add(10,20))
print(m.sub(10,20))
```

99
30
-10