**Modules**

A group of variables, functions, class, etc. that are saved as .py file then it is said to be modules.

* The main advantage of modules is code reusability.
* Length of code is decreased and readability is increased.
* Maintainability is increased.

**Module Aliasing:** Giving another name to the module.

Syntax: import modules as m

When name is changed then it is compulsory to use the new name to call or use that module. We can also directly access the function of that module by using from statement.

Syntax: from modules import sum, a

We can also import all the members as: from modules import \*

**Member Aliasing:**

Syntax: from modules import add as sum #here add function name is changed as sum.

**Various possibilities of import:**

1. Import module\_name
2. Import module\_name1, module\_name2, …..
3. Import module\_name as m
4. Import module\_name1 as m1, moule\_name2 as m2, ……
5. From module import member
6. From module import member1, member2, ….
7. From module import member as m
8. From module import member1 as m1, member2 as m2, …..
9. From module import \*

**Module conflict:**

When we have the function name same from 2 modules and we import that function from both modules then here comes conflict when the function which have same name is called. The last called object/function is called or considered in this kind of situation.

We can give different name of the same named function from different modules and use them.

**Reloading of modules:**

When we import any modules then it creates automatically a folder names \_\_pycache\_\_ where all models are stored for the faster reusability of code.

When we give some change when the program goes on sleep and want to use it then we use importlib.reload(modules) which is to be import form the module importlib as: import importlib.

|  |
| --- |
| """This demo module contain some important math function"""  print(\_\_doc\_\_) #print the documented string  print(\_\_file\_\_) #gives current file path name  print(os.path.dirname(\_\_file\_\_))  output:  This demo module contain some important math function  e:\intern\test.py  e:\intern |

Math module: We use math module for doing many mathematical operations.

Random module: We use random module when we need to generate the random number. It is very important module.

|  |
| --- |
| # OTP generation of six numbers.  from random import \*  for i in range(10):      print(randint(0,9),randint(0,9),randint(0,9),randint(0,9),randint(0,9),randint(0,9),sep='')  # OR  otp=''  for i in range(6):      otp=otp+ str(randint(0,9))  print(otp)  output:  663763  577651  508643  422103  121787  577510  689468  906995  333247  901435  841211 |

Packages: Collection of modules are called packages.

It can resolve naming complexity.

We can identify