

Modules

A group of functions, variables and classes saved to a file, which is nothing but module.

Every Python file (.py) acts as a module.

If we want to use members of module in our program then we should import that module.

```
import modulename
```

We can access members by using module name.

```
modulename.variable  
modulename.function()
```

from ... import:

We can import particular members of module by using from ... import .

The main advantage of this is we can access members directly without using module name.

Various possibilities of import:

```
import modulename  
import module1,module2,module3  
import module1 as m  
import module1 as m1,module2 as m2,module3  
from module import member  
from module import member1,member2,memebr3  
from module import memeber1 as x  
from module import *
```

Reloading a Module:

By default module will be loaded only once eventhough we are importing multiple multiple times.

We can solve this problem by reloading module explicitly based on our requirement. We can reload by using reload() function of imp module.

```
import imp  
imp.reload(module1)
```

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The main advantage of explicit module reloading is we can ensure that updated version is always available to our program.

Finding members of module by using dir() function:

Python provides inbuilt function dir() to list out all members of current module or a specified module.

dir() ==> To list out all members of current module

dir(moduleName) ==> To list out all members of specified module

The Special variable `__name__`:

For every Python program, a special variable `__name__` will be added internally. This variable stores information regarding whether the program is executed as an individual program or as a module.

If the program executed as an individual program then the value of this variable is `__main__`

If the program executed as a module from some other program then the value of this variable is the name of module where it is defined.

Hence by using this `__name__` variable we can identify whether the program executed directly or as a module.

Note:

We can find help for any module by using help() function

Eg:

```
import math
help(math)
```