Python Development
FOSSEE

1 Module

Packages like `scipy`, `pylab` etc we used for functions like `plot`, `linspace` are **Modules**. They are Python script, which have various functions and objects, which can be imported and reused.

```
def gcd(a, b):
  if a % b == 0:
    return b
  return gcd(b, a%b)

print gcd(15, 65)
print gcd(16, 76)
```

Save above mentioned python script with name 'gcd.py'. Now we can **import** `gcd` function. For example, in same directory create 'lcm.py' with following content:

```
from gcd import gcd

def lcm(a, b):
  return (a * b) / gcd(a, b)

print lcm(14, 56)
```

Here since both gcd.py and lcm.py are in same directory, import statement imports `gcd` function from gcd.py.
When you try to run lcm.py it prints three results, two from gcd.py and third from lcm.py.

```
$ python lcm.py
5
4
56
```

We have print statements to make sure `gcd` and `lcm` are working properly. So to suppress output of `gcd` module when imported in lcm.py we use `'__main__'`

```
def gcd(a, b):
  if a % b == 0:
    return b
  return gcd(b, a%b)
if __name__ == '__main__':
  print gcd(15, 65)
  print gcd(16, 76)
```

`__main__()` helps to create standalone scripts. Code inside it is only executed when we run gcd.py. Hence

```
$ python gcd.py
5
4
$ python lcm.py
56
```