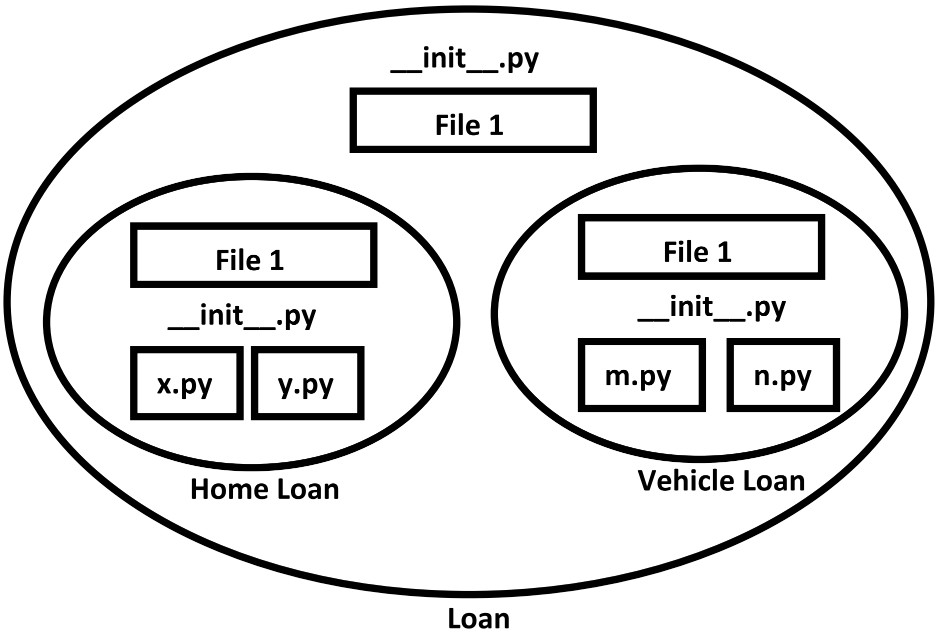
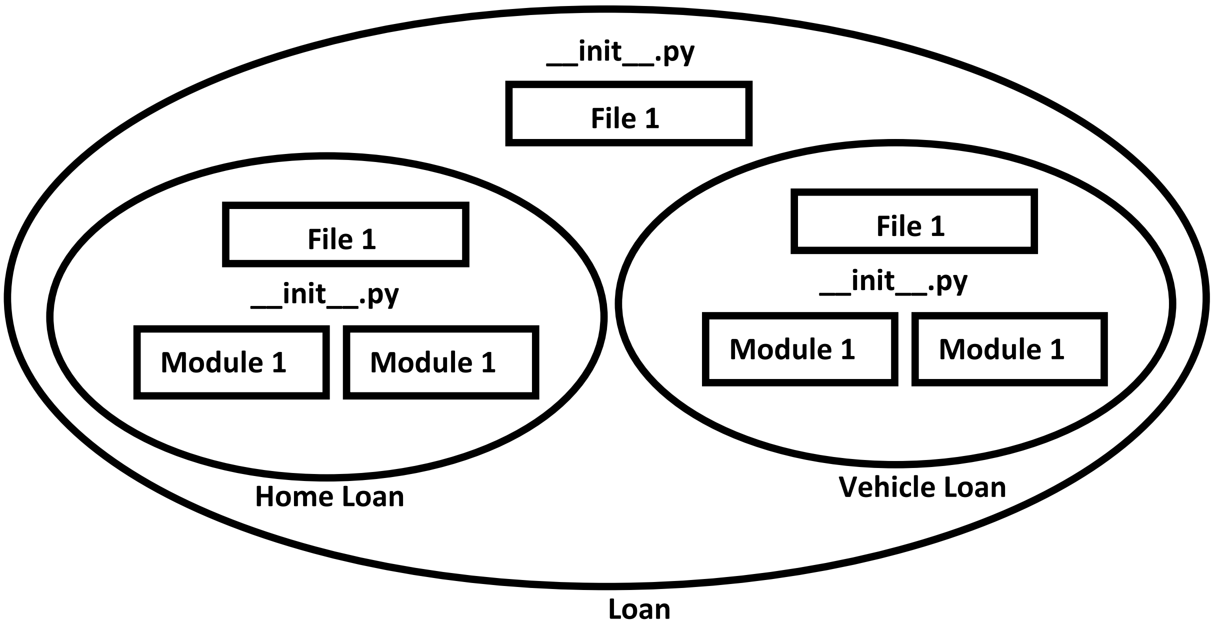
Packages

It is an encapsulation mechanism to group related modules into a single unit.
package is nothing but folder or directory which represents collection of Python modules.

Any folder or directory contains __init__.py file,is considered as a Python package.This file can be empty.

A package can contains sub packages also.





The main advantages of package statement are

1. We can resolve naming conflicts
2. We can identify our components uniquely
3. It improves modularity of the application

Eg 1:

```
D:\Python_classes>
      |-test.py
      |-pack1
            |-module1.py
            |-__init__.py
```

__init__.py:

empty file

module1.py:

```
def f1():
        print("Hello this is from module1 present in pack1")
```

test.py (version-1):

```
import pack1.module1
pack1.module1.f1()
```

test.py (version-2):

```
from pack1.module1 import f1
f1()
```

Eg 2:

```
D:\Python_classes>
       |-test.py
       |-com
             |-module1.py
             |-__init__.py
                  |-durgasoft
                      |-module2.py
                      |-__init__.py
```

__init__.py:

empty file

module1.py:

```
def f1():
            print("Hello this is from module1 present in com")
```

module2.py:

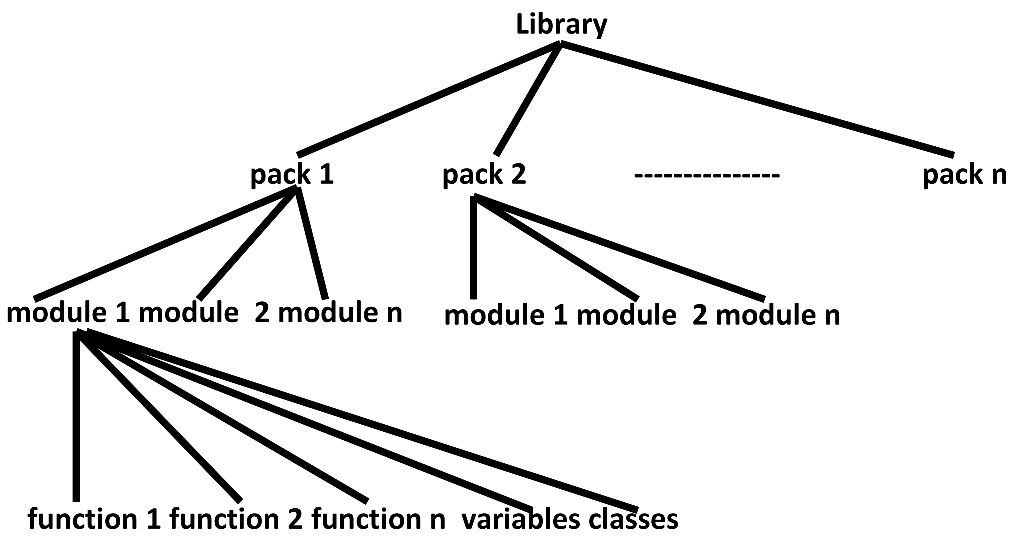
```
def f2():
            print("Hello this is from module2 present in com.durgasoft")
```

test.py:

```
from com.module1 import f1
from com.durgasoft.module2 import f2
f1()
f2()

Output
D:\Python_classes>py test.py
Hello this is from module1 present in com
Hello this is from module2 present in com.durgasoft
```

Note: Summary diagram of library,packages,modules which contains functions,classes and variables.


Library
pack 1
pack 2
----
pack n
module 1 module 2 module n
module 1 module 2 module n
function 1 function 2 function n variables classes