ASSIGNMENT 7

```python
#(1).Create a package called ‘mypackage’.
#(a).In package‘mypackage’, createmodule ‘Shapes’.
#(i).Shapes module should containinterface ‘shape’with method volume(). Implement this interface in classes sphere,
#    cube and cylinder.
#(ii).Each of these child class should override the volume() method appropriately.Use this package to create object
#     of each of the class and calculate their volume.
from abc import ABC,abstractmethod
import math
class shape(ABC):
    def volume(self):
        pass
class sphere(shape):
    def _init_(self,radius):
        self.radius=radius
    def volume(self):
        self.vol=(4/3) * math.pi(self.radius**3)
        return self.vol

class cube(shape):
    def _init_(self,side):
        self.side=side
    def volume(self):
       self.vol=self.side**3
       return self.vol

class cylinder(shape):
    def _init_(self,radius,height):
        self.radius=radius
        self.height=height
    def volume(self):
       self.vol=math.pi*(self.radius**2)*self.height
       return self.vol
```

listops.py

```python
class listcom():
    def compare(self,l1,l2):
        self.l1=l1
        self.l2=l2
        #print(len(self.l1),len(self.l2))
        for i in self.l1:
            for j in self.l2:
                if(i>j):
                    return False
        return True

    def merge(self,l1,l2):
        self.l1=l1
        self.l2=l2
        l3=self.l1+self.l2
        return l3
```

comparelist.py

```python
from mypackage.listpackage.listops import*
l1=[22,23,24,25]
l2=[33,34,35,36]
if(len(l1)==len(l2)):
    x=listcom()
    if (x.compare(l1,l2)):
        print("All Elements of L1 is smaller than elements
    else:
        print("All Elements of L1 is not smaller than elem
else:
  print("Size of 2 lists are not same")
l3=x.merge(l1,l2)
print(l3)
```

volume.py

```python
from mypackage.Shapes import sphere,cube,cylinder

Sphere=sphere(5)
volsphere=Sphere.volume()
print("Volume of sphere:"+(str)(volsphere))
Cube=cube(10)
print("Volume of cube:"+(str)(Cube.volume()))
Cylinder=cylinder(5,6)
print("Volume of cylinder:"+(str)(Cylinder.volume()))
```