In [ ]:
```
#creating Vector class and adding ADD function
```

In [161]:
```
class vector:
    def __init__(self,a=0.0,b=0.0):
        self.a=a
        self.b=b


    def __str__(self):
        return "[{},{}]".format(str(self.a) , str(self.b))
```

In [201]:
```
a=vector(2,3)
```

In [202]:
```
print (a)
```

```
[2,3]
```

In [203]:
```
b= vector(5,2)
print (b)
```

```
[5,2]
```

In [165]:
```
def add_vect(self,b):
    c= vector()
    c.a=self.a+b.a
    c.b=self.b+b.b
    return c


vector.add=add_vect
```

In [166]:
```
c= a.add(b)
```

In [167]:
```
print(c)
```

```
[6,7]
```

In [ ]:
```
#MULTIPLICATION FUNCTION#
```

In [174]:
```
def mult_vect(self,z):
    return vector(z*self.a , z*self.b)

vector.mult=mult_vect
```

In [175]:
```
m=a.mult(5)
print(m)
```

```
[10,15]
```

In [176]:
```
#SUBTRACTION FUNCTION#
```

In [179]:
```
def subtr_vec(self,o):
    return self.add(o.mult(-1))

vector.sub=subtr_vec
```

In [204]:
```
m_subtr_a = m.sub(a)
print(m_subtr_a)
```

```
[8,12]
```

In [182]:
```
#Dot Product
```

In [185]:
```
def dot_prod(self,w):
    c= vector()
    c.a=self.a * w.a
    c.b= self.a *w.b

    d=c.a+c.b
    return d

vector.dot_pr=dot_prod
```

In [188]:
```
a_dotPr_b=a.dot_pr(b)
print(a_dotPr_b)
```

```
16
```

In [189]:
```
#Creating Vector3 class
```

In [198]:
```
class vector3:
     def __init__(self,a=0.0,b=0.0,c=0.0):
        self.a=a
        self.b=b
        self.c=c


     def __str__(self):
        return "[{},{},{}]".format(str(self.a) , str(self.b), str(self.c))
```

In [237]:
```
a_vector=vector3(1,2,2)
print(a_vector)
```

```
[1,2,2]
```

In [205]:
```
#addition
```

In [229]:
```
def add_3(self,x):
    d=vector3()
    d.a=self.a+x.a
    d.b=self.b+x.b
    d.c=self.c+x.c

    return d

vector3.add_3=add_3
```

In [238]:
```
b_vector=vector3(1,1,1)
print(b)
```

```
[1,1,1]
```

In [239]:
```
r=alp.add_3(b)
print(r)
```

```
[2,3,3]
```

PART 7

1.First we will ask the user to input the total number of elements of a vector. 2.Then we will use a for loop at run time and add those elements in a list. 3.That list will denote a vector.

In [ ]:
```

```