

MATHS ASSIGNMENT SET1

AIM:

- DEFINE A VECTOR
- ADD,SUBTRACT,DIVIDE & MULTIPLY 2 VECTORS USING NUMPY
- FIND DOT PRODUCT OF 2 VECTORS
- PERFORM VECTOR SCALAR MULTIPLICATION

PROGRAM:

```
import numpy as np
vec1=[1,2j]
vec2=[4,5j]
sum=np.add(vec1,vec2)
print(f"addition is {sum}")
dif=np.subtract(vec1,vec2)
print(f"subtraction is {dif}")
mul=np.multiply(vec1,vec2)
print(f"product is {mul}")
div=np.divide(vec1,vec2)
print(f"division is {div}")
#dot
v1=[1,5]
v2=[4,7]
dot=np.dot(v1,v2)
print(f"dot product is {dot}")
#vec scalarmul
vector=[2,3j]
scalar=[1]
vecXscl=np.multiply(vector,scalar)
print(f"vector scalar multiplication is {vecXscl}")
```

RESULT:

THE PROGRAM HAS RUN AND OUTPUT OBTAINED SUCCESSFULLY

OUTPUT:

addition is $[5.+0.j \ 0.+7.j]$

subtraction is $[-3.+0.j \ 0.-3.j]$

product is $[\ 4.+0.j \ -10.+0.j]$

division is $[0.25+0.j \ 0.4 +0.j]$

dot product is 39

vector scalar multiplication is $[2.+0.j \ 0.+3.j]$