```
from numpy import array
import numpy as np
x = array([1, 5, 6])
print(x)
y = array([1, 5, 6])
print(y)
z = x + y
print(z)
z = x - y
print(z)
z = x.dot(y)
print(z)
z = np.cross(x, y)
print(z)
```

```
[1 5 6]
[1 5 6]
[ 2 10 12]
[0 0 0]
62
[0 0 0]
```

```
from numpy import array
import numpy as np
x = array([1, 5, 2])
print(x)
y = array([0, 2, 5])
print(y)
z = x.dot(y)
print(z)
```

```
[1 5 2]
[0 2 5]
20
```

```
import numpy as np

# make matrix with numpy
gfg = np.matrix('[4, 2; 9, 5]')

# applying matrix.sum() method
geek = gfg.sum()

print(geek)
```

```
20
```

```
import numpy as np

n_array = np.array([[0, 25, 15],
                    [30, 20, 2],
                    [11, 45, 0]])

print("Numpy Matrix is:")
print(n_array)

trace = np.trace(n_array)

print(trace)
```

```
Numpy Matrix is:
[[ 0 25 15]
 [30 20  2]
 [11 45  0]]
20
```

```
# importing numpy as np
import numpy as np


# creating first matrix
A = np.array([[1, 2], [3, 4]])

# creating second matrix
B = np.array([[4, 5], [6, 7]])

print("Printing elements of first matrix")
```

```
print(A)
print("Printing elements of second matrix")
print(B)

# adding two matrix
print("Addition of two matrix")
print(np.add(A, B))
print("Subtraction of two matrix")
print(np.subtract(A, B))
```

```
Printing elements of first matrix
[[1 2]
 [3 4]]
Printing elements of second matrix
[[4 5]
 [6 7]]
Addition of two matrix
[[ 5  7]
 [ 9 11]]
Subtraction of two matrix
[[-3 -3]
 [-3 -3]]
```

```
import numpy as np

ini_array = np.array([[1, 2, 3], [45, 4, 7], [9, 6, 10]])

# Array to be added as column
column_to_be_added = np.array([[1], [2], [3]])

# Adding column to array using append() method
arr = np.insert(ini_array, 0, column_to_be_added, axis=1)


# printing result
print ("resultant array", str(arr))
```

```
resultant array [[ 1  2  3  1  2  3]
 [ 1  2  3 45  4  7]
 [ 1  2  3  9  6 10]]
```

```
import numpy as np

# creating two matrices
p = [[2, 0], [4, 9]]
q = [[2, 4], [0, 9]]
print("Matrix p :")
print(p)
print("Matrix q :")
print(q)

# computing product
result = np.dot(p, q)

# printing the result
print("The matrix multiplication is :")
print(result)
```

```
Matrix p :
[[2, 0], [4, 9]]
Matrix q :
[[2, 4], [0, 9]]
The matrix multiplication is :
[[ 4  8]
 [ 8 97]]
```

```
import numpy as np

A = np.array([[1, 0, 0],
              [0, 1, 0],
              [0, 0, 1]])

print(np.linalg.inv(A))
```

```
[[1. 0. 0.]
 [0. 1. 0.]
 [0. 0. 1.]]
```

```
import numpy as np
```

```
ini_array = np.array([49, 20, 5,
                      49, 8, 20,
                      8, 9])

unique, frequency = np.unique(ini_array,
                              return_counts = True)

print("Unique Values:",
      unique)

print("Frequency Values:",
      frequency)
```

```
Unique Values: [ 5  8  9 20 49]
Frequency Values: [1 2 1 2 2]
```

```
import numpy as np
x = np.array([2+0j, 4+9j])
print("Printing First matrix:")
print(x)

y = np.array([8+7j, 5+6j])
print("Printing Second matrix:")
print(y)

z = np.vdot(x, y)
print("Product of first and second matrices are:")
print(z)
```

```
Printing First matrix:
[2.+0.j 4.+9.j]
Printing Second matrix:
[8.+7.j 5.+6.j]
Product of first and second matrices are:
(90-7j)
```


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