1.Write a program in python to print a reversed numpy array with the element type float.
sol:

```
import numpy as np
a=list(map(int,input('enter your numbers').split()))
a.reverse()
print(np.array(a,dtype=float))
```

2.Write a program in python to convert the given list into 3*3 array.
sol:

```
import numpy as np
a=list(map(int,input().split()))
print(np.array(a).reshape(3,3))
```

3.Write a program in python to print an array of size N*M with its main diagonalelements as 1 and 0 everywhere els
e.
sol:

```
import numpy as np
a=list(map(int,(input('enter order of array').split())))
m=a[0]
n=a[1]
if n==m:
    print(np.identity(n))
```

4.you are given 2 integer arrays A and B.Perform the following operations.
1.Add
2.Subtract
3.Multiply
4.Integer Division
5.Mod
6.Power
sol:

```
import numpy as np
a=[1,2,3,4]
b=np.array([[5,6,7,8]])
print(np.add(a,b))
print(np.subtract(a,b))
print(np.multiply(a,b))
print(np.floor_divide(a,b))
print(np.mod(a,b))
print(np.power(a,b))
```

5.Write a program in python to print the transpose and flatten of a given integer array matrix.
sol:

```
import numpy as np
lst=[]
r=int(input('enter no of rows'))
c=int(input('enter no of col'))
for i in range(r):
```

```
    for j in range(c):
        ele=int(input('enter element'))
        lst.append(ele)
a=np.array(lst).reshape(r,c)
print(np.transpose(a))
print(np.ravel(a))
```

6.Write a program in python to search a specified row in a given integer matrix array.
sol:

```
import numpy as np
a=np.array([[1,2,3],
            [4,5,6],
            [7,8,9]])
print(a)

print([1,2,3] in a.tolist())

print([4,5,6] in a.tolist())
```

7.Write a program in python to find the occurances of elements or pair of elements in an array.
sol:

```
import numpy as np
a=np.array([[1, 2, 3],
            [2, 3, 4],
            [2, 3, 5]])

out=repr(a).count('2, 3')

print(out)
```

8.Write a program in python to find the maximum and minimum elements in a given array.
sol:

```
import numpy as np
a=np.array([[1,2,3],
            [4,5,6],
            [7,8,9]])

print(a.max())

print(a.min())
```

9.Write a program in python to find the mean and median of a given array.

sol:

```
import numpy as np
a=np.array([1,2,3,4,5,6,7,8,9])

print(np.mean(a))

print(np.median(a))
```

10.Write a program in python to find the variance and standard deviation of a given array.

sol:

```
import numpy as np
a=([1,2,3,4,5,6,7,8,9,10,11])

print(np.var(a))

print(np.std(a))
```