1. Write a Python program to select an item randomly from a list.
2. Write a Python program to count the elements in a list until an element is a tuple
3. Create a dictionary of 5 countries with their currency details and display them.
4. Write a Python program to reverse a tuple.
5. Create a Numpy array filled with all ones
6. Check whether a Numpy array contains a specified row
7. Compute mathematical operations on Array, Add & Multiply two matrices
8. Find the most frequent value in a NumPy array
9. Flatten a 2d numpy array into ld array
10. Calculate the sum of all columns in a 2D NumPy array
11. Calculate the average, variance and standard deviation in Python using NumPy
12. Insert a space between characters of all the elements of a given NumPy array?
13. Sort the values in a matrix

ANISH SHARMA

I011

60003220045

```
lst = [1,2,3,4,5]
lst
```

```
[1, 2, 3, 4, 5]
```

```
import random as r
```

```
r.choice(lst)
```

```
5
```

```
dict={
    "India":"Rupees",
    "USA":"Dollar",
    "Afghanistan":"Afghani",
    "Andorra":"Euro",
    "Albania":"Dinar"
}
dict
```

```
{'India': 'Rupees',
 'USA': 'Dollar',
 'Afghanistan': 'Afghani',
 'Andorra': 'Euro',
 'Albania': 'Dinar'}
```

```
t = (1,2,3,4,5)
t[::-1]
```

```
(5, 4, 3, 2, 1)
```

```
import numpy as np

arr = np.ones(5,int)

arr
```

```
array([1, 1, 1, 1, 1])
```

```
m1 = np.array(
    [
        [1,2,3],
        [4,5,6],
        [7,8,9]
    ]
)
m2= np.array(
    [
        [1,2,3],
        [4,5,6],
        [7,8,9]
    ]
)

m1+m2
```

```
array([[ 2,  4,  6],
       [ 8, 10, 12],
       [14, 16, 18]])
```

```
m1*m2
```

```
array([[ 1,  4,  9],
       [16, 25, 36],
       [49, 64, 81]])
```

```
m1.flatten()
```

```
array([1, 2, 3, 4, 5, 6, 7, 8, 9])
```

```
m1.sum()
```

```
45
```

```
arr = np.array([1,2,3,4,5],int)
np.average(arr)
```

```
3.0
```

```
np.std(arr)
```

```
1.4142135623730951
```

```
np.var(arr)
```

```
2.0
```

```
x = np.array(["geeks", "for", "geeks"])

r = np.char.join(" ", x)
r
```

```
array(['g e e k s', 'f o r', 'g e e k s'], dtype='<U9')
```

```
np.sort(m2)
```

```
array([[1, 2, 3],
       [4, 5, 6],
       [7, 8, 9]])
```

```
arr = np.array([[1, 2, 3, 4, 5],
                [6, 7, 8, 9, 10],
                [11, 12, 13, 14, 15],
                [16, 17, 18, 19, 20]
                ])

print([1, 2, 3, 4, 5] in arr.tolist())
```

```
True
```

```
print([1, 2,5 , 3, 4, 5] in arr.tolist())
```

```
False
```

```
x = np.array([1,2,3,4,5,1,2,1,1,1])
print(np.bincount(x).argmax())
```

```
1
```

```
a = [[1,2,3],[4,5,6],tuple(7,8,9)]
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-61-02d7a42561ab> in <module>
----> 1 a = [[1,2,3],[4,5,6],tuple(7,8,9)]

TypeError: tuple expected at most 1 argument, got 3
```

```
for i in a:
    if a is not tuple:
        print(i)
```

```
[1, 2, 3]
[4, 5, 6]
(7, 8, 9)
```

```
def Count(li):

    for num in li:
        if isinstance(num, tuple):
            break

        print(num)

li = [4, 5, 6, 10, (1, 2, 3), 11, 2, 4]
```

```
4
5
6
10
4
```