In [1]:
```
# Aim: To perform finding Stastical mean, median, mode, standard deviation, Variance usi
```

In [2]:
```
# Name: Shriya Mechineni
# Class: 3rd year
# Sec: A
# Roll No. :49
```

In [3]:
```
import numpy as np
x=np.array([1,2,3,4,5,6,7,2,6,2,1,4,2,2,6])
```

In [4]:
```
x
```

Out[4]:
```
array([1, 2, 3, 4, 5, 6, 7, 2, 6, 2, 1, 4, 2, 2, 6])
```

In [5]:
```
print(np.mean(x))
```

```
3.533333333333333
```

In [6]:
```
print(np.median(x))
```

```
3.0
```

In [7]:
```
print(np.mode(x))
```

```
---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
Cell In[7], line 1
----> 1 print(np.mode(x))

File ~\anaconda3\Lib\site-packages\numpy\__init__.py:320, in __getattr__(attr)
    317     from .testing import Tester
    318     return Tester
--> 320 raise AttributeError("module {!r} has no attribute "
    321                      "{!r}".format(__name__, attr))

AttributeError: module 'numpy' has no attribute 'mode'
```

In [ ]:
```
from scipy import stats
```

In [ ]:
```
print(stats.mode(x))
```

In [ ]:
```
print(np.std(x))
```

In [ ]:
```
print(np.var(x))
```

In [ ]:
```
import numpy as np
x=np.array([1,100,200,300,4000,5000])
y=np.array([2,4,6,8,10])
```

In [ ]:
```
print(np.std(x))
```

In [ ]:
```
print(np.std(y))
```

In [ ]:
```
print(np.var(x))
```

In [ ]:
```
print(np.var(y))
```

In [ ]:
```
from matplotlib import pyplot as plt
plt.hist(x)
plt.show()
```

In [ ]:
```
from matplotlib import pyplot as plt
plt.hist(y)
plt.show()
```

In [ ]:
```
from statsmodels.stats.weightstats import ztest as ztest
#enter IQ levels for 20 patients
data = [88, 92, 94, 94, 96, 97, 97, 97, 99, 99,
 105, 109, 109, 109, 110, 112, 112, 113, 114, 115]
#perform one sample z-test
ztest(data)
```

```
(1.5976240527147705, 0.1101266701438426)
```

In [ ]: