Central Tendancy Of Measures (Mean,Median, Mode)

In [1]: `#Exp no.:2`

In [2]: `#Aim : To find Central Tendancy of measures (Mean, Median, Mode)`

In [3]:
```
#Name:Vedant M.
Padole #Roll no:42
#Sec:C
#Subject:ET1
#Date:
```

In [4]: `age=[22,21,20,20,21,21,22,22,22,21,22]`

In [5]: `age`

Out[5]: `[22, 21, 20, 20, 21, 21, 22, 22, 22, 21, 22]`

In [6]: `import statistics`

In [7]: `a=statistics.mean(age)`

In [8]: `a`

Out[8]: `21.272727272727273`

In [9]: `b=statistics.mode(age)`

In [11]: `b`

Out[11]: `22`

In [13]: `c=statistics.median(age)`

In [14]: `c`

Out[14]: `21`

In [15]:
```
import numpy as np
import pandas as pd
```

In [17]: `x=np.array([1,6,7,2,8,5,4,1,8,5,7,5])`

In [18]: `x`

Out[18]: `array([1, 6, 7, 2, 8, 5, 4, 1, 8, 5, 7, 5])`

In [19]: `print(np.mean(x))`

`4.916666666666667`

In [20]: `print(np.median(x))`

```
        5.0
```

In [21]: `from scipy import stats`

In [22]: `print(stats.mode(x))`

```
ModeResult(mode=array([5]), count=array([3]))
```

In [24]: `sd=stats.tstd(x)`

In [26]: `print("Standard Deviation:",sd)`

```
Standard Deviation: 2.5030284687057627
```

In [28]: `std_var=stats.tvar(x)`

In [29]: `print("Standard Variance:",std_var)`

```
Standard Variance: 6.265151515151515
```

Conclusion :

Inthis experiment, I havesuccessfully calculated the mean, median, and mode of a given data array using Python libraries such as NumPy, SciPy, and statistics. The results demonstrate how different libraries offer efficient and reliable methods for computing central tendency measures.

In [ ]: