Descriptive statistics

1. Measure of central tendency
2. Measure of dispersion(spread)

In [1]:

```python
# Measure of central Tendency
import numpy as np
import pandas as pd


#Mean
x= np.random.randint(30,35,10)


print(x)
```

[34 33 32 34 31 33 32 33 33 30]

In [2]:

```python
print(np.mean(x))
```

32.5

In [3]:

```python
#Median
np.median(x)
```

Out[3]:

33.0

Measure of Dispersion

In [4]:

```python
# variance = Means of squared deviations (below)
print('variance -', np.var(x))

# std= sqrt of variance
print('std. Dv -', np.std(x))
```

variance - 1.45
std. Dv - 1.2041594578792296

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In [5]:

```python
# Quantiles
y=[10,20,30,40,50,60,70,80]
y_=pd.DataFrame(y)
y_.describe()
```

Out[5]:

	0
count	8.000000
mean	45.000000
std	24.494897
min	10.000000
25%	27.500000
50%	45.000000
75%	62.500000
max	80.000000

In [6]:

```python
#Inter Quantiles=> Q3-Q1
# Quanttile Range=> Max - min
# IQRange
```

Inferential Statistics

sampling data and infer the result to describe entire population

Central limit theorem

Types of distribution

Normal distribution - Distribution is always normal irrespective of sample size

Non-Normal distribution- if sample size is adequate (appr>30 sample), distribution starts looking normal

Bernoullis distribution Binomial distribution uniform distribution PDF= Probability distribution function CDF= commulative distribution function