```
1 import numpy as np
```

DATA SET

```
1 a = np.array([7,8,888,1,2,3,4,5,6])
2 a
```

```
array([  7,   8, 888,   1,   2,   3,   4,   5,   6])
```

```
1 asort=np.sort(a)
2 asort
```

```
array([  1,   2,   3,   4,   5,   6,   7,   8, 888])
```

MEASURE OF CENTRALITY

```
1 aMean = np.mean(asort)
2 aMean
```

```
102.66666666666667
```

```
1 aMedian = np.median(asort)
2 aMedian
```

```
5.0
```

```
1 from scipy import stats as st
2 aMode = st.mode(asort)
3 aMode
```

```
ModeResult(mode=array([1]), count=array([1]))
```

MEASURE OF SPREAD

```
1 aMax = np.max(asort)
2 aMax
```

```
888
```

```
1 aMin = np.min(asort)
2 aMin
```

```
1
```

```
1 aRange = aMax - aMin
2 aRange
```

887

QUARTILES

```
1 aIQR0 = np.percentile(asort,0)
2 aIQR0
```

    1.0

```
1 aIQR1 = np.percentile(asort,25)
2 aIQR1
```

    3.0

```
1 aIQR2 = np.percentile(asort,50)
2 aIQR2
```

    5.0

```
1 aIQR3 = np.percentile(asort,75)
2 aIQR3
```

    7.0

```
1 aIQR4 = np.percentile(asort,100)
2 aIQR4
```

    888.0

INTER QUARTILE RANGE

```
1 IQR = aIQR3 - aIQR1
2 IQR
```

    4.0

FIND PERCENTILE RANK FOR A GIVEN VALUE

```
1 import scipy
2 from scipy import stats as st
3 atofind = 5
4 pRank = scipy.stats.percentileofscore(asort, atofind, kind='rank')
5 pRank
```

    55.55555555555556

OUTLIER

```
1 aOutlier = awoOutlier = np.array([e for e in asort if  ( e < -1.5*aIQR1 or  e> 1.5*aIQ
2 aOutlier
```

    array([888])

ARRAY WITHOUT OUTLIERS

```
1  awoOutlier = np.array([e for e in asort if  (-1.5*aIQR1 < e < 1.5*aIQR3)])
2  awoOutlier
```

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

Trimmed Mean

```
1 aTrimMean = np.mean(awoOutlier)
2 aTrimMean
```

    4.5

Xi - Xbar

```
1 xi_xbar = asort - aMean
2 xi_xbar
```

    array([-101.66666667, -100.66666667, -99.66666667, -98.66666667,
            -97.66666667, -96.66666667, -95.66666667, -94.66666667,
            785.33333333])

VARIANCE

```
1  avar=np.var(asort)
2  avar
```

    77098.22222222222

STANDARD DEVIATION

```
1  astd = np.std(asort)
2  astd
```

    277.66566626470444

Z score

Transform — M, M, m

✓ 0s completed at 8:30 PM ● ✕