# Assignment

lesser, greater outlier range,
kurtosis, skewness, identifying

(a). The interquartile range. Compare the two interquartile ranges.
(b) Any outlier in either set.

| | Minimum | Q1 | Median | Q3 | Maximum |
|---|---|---|---|---|---|
| Day | 32 | 56 | 74.5 | 82.5 | 99 |
| Night | 25.5 | 78 | 81 | 89 | 98 |

## Day values.

min = 32.
Q1 = 56
median = 74.5
Q3 = 82.5
max = 99

IQR = ~~Q1 - Q3~~.
IQR = Q3 - Q1.

= 82.5 - 56
= 26.5

lesser bound
outlier range = Q1 - 1.5 * IQR
= 56 - 1.5 * 26.5
=
= 16.25

Greater bound
outlier range = Q3 + 1.5 * IQR
= 82.5 + 1.5 * 26.5
= 122.25

If the value is less than 16.25 then its lesser outlier

If the value is greater than 122.25 then its is greater outlier.

max = 99

99 < 122.25 True.

min = 32.

32 > 16.25.

Conclusion:

No lesser, greater Outlier exist for Day values.

Night values:

min = 25.5

Q1 = 78

Q3 = 89

median = 81

max = 98

IQR = Q3 - Q1.

= 89 - 78

IQR = 11

lesser = Q1 - 1.5 * IQR

= 78 * 1.5 * 11

= 61.5

greater = Q3 + 1.5 * IQR

= 89 + 1.5 * 11

= 105.5

min 25.5

~~61.5 < 25.5~~

~~25.5~~

25.5 < 61.5

True

lesser outlier exist.

max = 98

98 > 105.5

False

NO greater outlier.

Condition:

Any value < lesser outlier range.

Is lesser outlier

Any value > greater Outlier range

Is Greater Outlier

Final conclusion:

Lesser outlier exist for Night value

NO Greater outlier

| | | Lesser Outlier range | Greater Outlier range | Result. |
|---|---|---|---|---|
| Day | ~~Total~~ | 16.25 | 122.25 | No outlier exist |
| Night | | 61.5 | 105.5 | lesser outlier exist. |

| | ~~S.NO.~~ | SSC_P | HSC_P | DEGREE_P | ETEST_P | MBA_P | SALARY |
|---|---|---|---|---|---|---|---|
| Skew. | 0.0 | -0.132 | 0.1626 | 0.204 | 0.0282 | 0.313 | 0.8067 |
| Kurtosis | -1.2 | -0.607 | 0.0869 | -0.097 | -1.088 | -0.470 | -0.2398 |

SSC_P.

Skew is negative.

Negative skew.

HSC_P

0.1626

which is > 0,

Skew is positive

Positive skew.

degree_P.

0.204.

which is > 0,

Skew is positive.

Positive skew.

Etest_P.

0.0282

which is 0 > 0.

Skew is positive

Positive skew.

MBA_P.

0.313.

which is > 0,

Skew is positive.

Positive skew.

~~0.8067~~

Salary.

0.8067.

which is > 0.

Skew is positive.

Positive skew.

Kurtosis.

$< 3 \quad = 3 \quad > 3$ ;

All the values are less than 3.

Platykurtic ~~#yt~~ kurtosis.