INTERQUARTILE RANGE

	sl_no	ssc_p	hsc_p	degree_p	etest_p	mba_p	salary
Mean	108	67.3034	66.3332	66.3702	72.1006	62.2782	288655
Median	108	67	65	66	71	62	265000
Mode	1	62	63	65	60	56.7	300000
Q1:25%	54.5	60.6	60.9	61	60	57.945	240000
Q2:50%	108	67	65	66	71	62	265000
Q3:75%	161.5	75.7	73	72	83.5	66.255	300000
99%	212.86	87	91.86	83.86	97	76.1142	NaN
Q4:100%	215	89.4	97.7	91	98	77.89	940000
IQR	107	15.1	12.1	11	23.5	8.31	60000
1.5Rule	160.5	22.65	18.15	16.5	35.25	12.465	90000
Lesser	-106	37.95	42.75	44.5	24.75	45.48	150000
Greater	322	98.35	91.15	88.5	118.75	78.72	390000
Min	1	40.89	37	50	50	51.21	200000
Max	215	89.4	97.7	91	98	77.89	940000

Interquadrile Range is the measure of how the data is spread out in the middle 50% of the dataset. It is used to remove or replace the outliers from the dataset. Interquartile Range (IQR) is calculated as the difference between third quartile (Q3) and first quartile (Q1) of the dataset

IQR=Q3-Q1

Lesser than Range is to identify and remove the outliers of lower value. Greater than Range is to identify and remove the outliers of higher value.

Lesser than Range = Q1-1.5*IQR
Greater than Range = Q3+1.5*IQR

If the dataset has the values abnormally below Lesser than Range, then it is considered as Lesser Outliers and if the dataset has the values abnormally above Greater than Range, then it is considered as Greater Outliers.

IQR is used to identify and eliminate outliers from the “Placement.csv” dataset.

ssc_p:

The minimum value present in the ssc_p column of the dataset is 40.89 and maximum value is 89.4.

Lesser than range for ssc_p is 37.95 and Greater than range is 98.35, where values below and above these respective values will be considered as outliers.

Calculation:

IQR = Q3-Q1 = 75.7 – 60.6 = 15.1

IQR = 15.1

Lesser than Range = Q1 – 1.5 * IQR

= 60.6 – 1.5 * 15.1

= 37.95

Greater than Range = Q3 + 1.5 * IQR

= 75.7 + 1.5 * 15.1

= 98.35

Min value (40.89) is not below the Lesser than range (37.95) and max value (89.4) is not greater than Greater than range (98.35). Hence, there is no outliers in the ssc_p column.

hsc_p:

The minimum value present in the hsc_p column of the dataset is 37 and maximum value is 97.7.

Lesser than range for hsc_p is 42.75 and Greater than range is 91.15, where values below and above these respective values will be considered as outliers.

Calculation:

IQR = Q3-Q1 = 73 – 60.9 = 12.1

IQR = 12.1

Lesser than Range = Q1 – 1.5 * IQR

= 60.9 – 1.5 * 12.1

= 42.75

Greater than Range = Q3 + 1.5 * IQR

= 73 + 1.5 * 12.1

= 91.15

Min value (37) is below the Lesser than range (42.75) and max value (97.7) is Greater than range (91.15). Hence, 37 and 97.7 are outliers present in the hsc_p column.

degree_p:

The minimum value present in the degree_p column of the dataset is 50 and maximum value is 91.

Lesser than range for degree_p is 44.5 and Greater than range is 88.5, where values below and above these respective values will be considered as outliers.

Calculation:

IQR = Q3-Q1 = 72 – 61 = 11

IQR = 11

Lesser than Range = Q1 – 1.5 * IQR

= 61 – 1.5 * 11

= 44.5

Greater than Range = Q3 + 1.5 * IQR

= 72 + 1.5 * 11

= 88.5

Min value (50) is not below the Lesser than range (44.5) and max value (91) is Greater than range (88.5). Hence, Greater outlier 91 is present in the degree_p column.

etest_p:

The minimum value present in the etest_p column of the dataset is 50 and maximum value is 98.

Lesser than range for etest_p is 24.75 and Greater than range is 188.75, where values below and above these respective values will be considered as outliers.

Calculation:

IQR = Q3-Q1 = 83.5 – 60 = 23.5

IQR = 23.5

Lesser than Range = Q1 – 1.5 * IQR

= 60 – 1.5 * 23.5

= 24.75

Greater than Range = Q3 + 1.5 * IQR

= 83.5 + 1.5 * 23.5

= 118.75

Min value (50) is not below the Lesser than range (24.75) and max value (98) is not Greater than range (118.75). Hence, no outliers present in the etest_p column.

mba_p:

The minimum value present in the mba_p column of the dataset is 51.21 and maximum value is 77.89.

Lesser than range for mba_p is 45.48 and Greater than range is 78.72, where values below and above these respective values will be considered as outliers.

Calculation:

IQR = Q3-Q1 = 66.255 – 57.945= 8.31

IQR = 8.31

Lesser than Range = Q1 – 1.5 * IQR

= 57.945 – 1.5 * 8.31

= 45.48

Greater than Range = Q3 + 1.5 * IQR

= 66.255 + 1.5 * 8.31

= 78.72

Min value (51.21) is not below the Lesser than range (45.48) and max value (77.89) is not Greater than range (78.72). Hence, no outliers present in the mba_p column.

salary:

The minimum value present in the salary column of the dataset is 200000 and maximum value is 940000.

Lesser than range for salary is 150000 and Greater than range is 390000, where values below and above these respective values will be considered as outliers.

Calculation:

IQR = Q3-Q1 = 300000 – 240000 = 60000

IQR = 60000

Lesser than Range = Q1 – 1.5 * IQR

= 240000 – 1.5 * 60000

= 150000

Greater than Range = Q3 + 1.5 * IQR

= 300000 + 1.5 * 60000

= 390000

Min value (200000) is not below the Lesser than range (150000) and max value (940000) is Greater than range (390000). Hence, Greater outlier 940000 is present in the salary column.