

Interquartile Range Report for Placement Data

	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

Interquartile range for ssc_p

$Q1=60.6$

$Q3=75.7$

$IQR=75.7-60.6= 15.1$

The interquartile range is 15.1

$.1.5IQR=1.5(15.1)=22.65$

1.5 times the interquartile range is 22.65. Our fences will be 22.65 points below Q1 and 22.65 points above Q3.

Lower fence: $60.6-22.65=37.95$

Upper fence: $75.7+22.65=98.35$

ssc_p mark column that are less than 37.95 or greater than 98.35 are outliers. In this case, there are no outliers.

Interquartile range for hsc_p

$$Q1=60.9$$

$$Q3=73$$

$$IQR=73-60.9= 12.1$$

The interquartile range is 12.1

$$.15IQR=1.5(12.1)=18.15$$

1.5 times the interquartile range is 18.15. Our fences will be 18.15 points below Q1 and 18.15 points above Q3.

$$\text{Lower fence}(Q1-15IQR): 60.9-18.15=42.75$$

$$\text{Upper fence}(Q3+15IQR): 73+18.15=91.15$$

hsc_p mark column that are less than 42.75 or greater than 91.15 are outliers. In this case, there are two outliers 42.16 and 97.7

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Interquartile range for degree_p

$$Q1=61$$

$$Q3=72$$

$$IQR=72-61= 11$$

The interquartile range is 11

$$.15IQR=1.5(11)=16.5$$

1.5 times the interquartile range is 16.5. Our fences will be 16.5 points below Q1 and 16.5 points above Q3.

$$\text{Lower fence}(Q1-15IQR): 61-16.5=44.5$$

$$\text{Upper fence}(Q3+15IQR): 72+16.5=88.5$$

degree_p mark column that are less than 44.5 or greater than 88.5 are outliers. In this case, there are no outliers.

Interquartile range for etest_p

$$Q1=60$$

$$Q3=83.5$$

$$IQR=83.5-60=23.5$$

The interquartile range is 23.5

$$.15IQR=1.5(23.5)=35.25$$

1.5 times the interquartile range is 35.25. Our fences will be 35.25 points below Q1 and 35.25 points above Q3.

$$\text{Lower fence}(Q1-1.5IQR): 60-35.25=24.75$$

$$\text{Upper fence}(Q3+1.5IQR): 83.5+35.25=118.75$$

etest_p mark column that are less than 24.75 or greater than 118.75 are outliers. In this case, there are no outliers.

Interquartile range for mba_p

$$Q1=57.945$$

$$Q3=66.255$$

$$IQR=66.255-57.945=8.31$$

The interquartile range is 8.31

$$.15IQR=1.5(8.31)=12.465$$

1.5 times the interquartile range is 12.465. Our fences will be 12.465 points below Q1 and 12.465 points above Q3.

$$\text{Lower fence}(Q1-1.5IQR): 57.945-12.465=45.48$$

$$\text{Upper fence}(Q3+1.5IQR): 66.255+12.465=78.72$$

mba_p mark column that are less than 45.48 or greater than 78.72 are outliers. In this case, there are no outliers.

Interquartile range for Salary

$$Q1=240000$$

$$Q3=300000$$

$$IQR=300000-240000= 60000$$

The interquartile range is 60000

$$.15IQR=1.5(60000)=90000$$

1.5 times the interquartile range is 90000. Our fences will be 90000 points below Q1 and 90000 points above Q3.

$$\text{Lower fence}(Q1-15IQR): 240000-90000=150000$$

$$\text{Upper fence}(Q3+15IQR): 300000+90000=390000$$

Salary mark column that are less than 150000 or greater than 390000 are outliers. In this case, there are six greater outliers 393000, 425000, 411000, 400000, 420000, 940000.