

Descriptive Statistics Review

Descriptive Measures

Central Tendency

Variation

Relative Standing

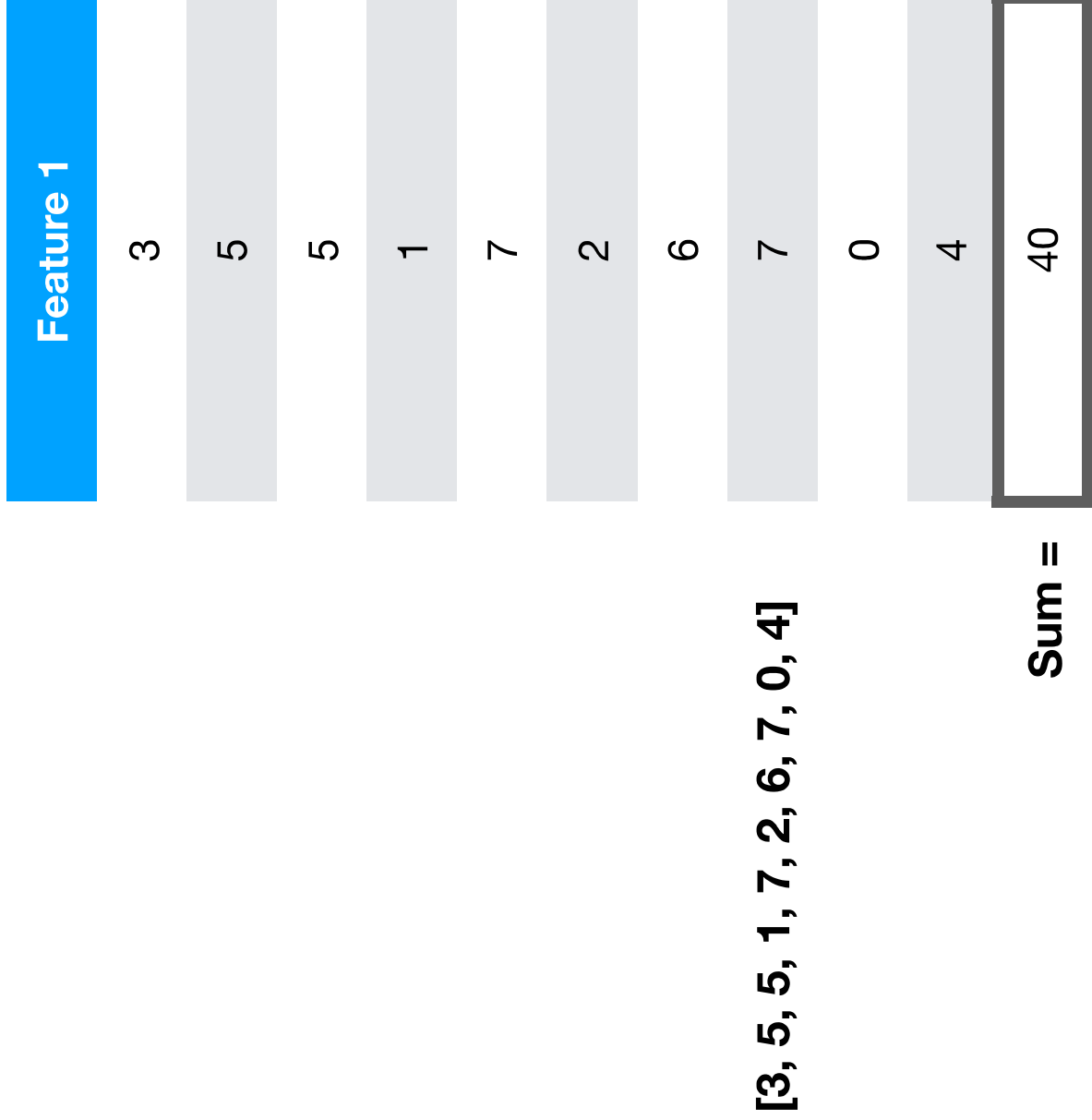
Central Tendency

Mean

Median

Mode

Mean



Median

Feature 1

0

1

2

3

4

5

5

6

7

7

40

Sum =

Put the numbers in order

Half of measures are above

$= 4.5$

Half of measures are above

Mode

Feature 1

0

1

2

3

4

5

5

6

7

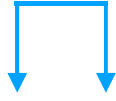
7

Sum =

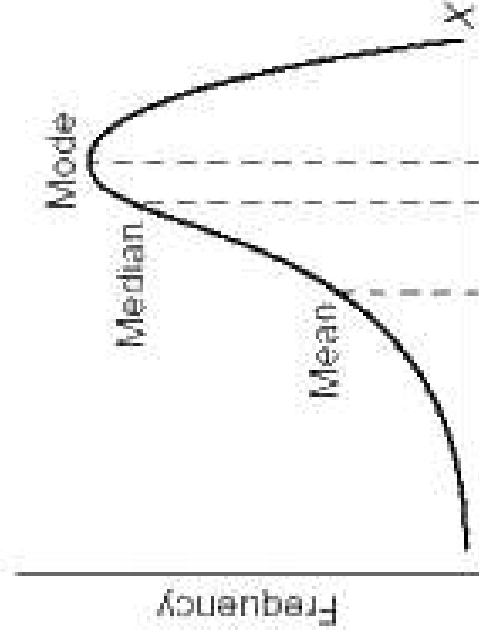
40

Number(s) which appears
most often

= 5 and 7

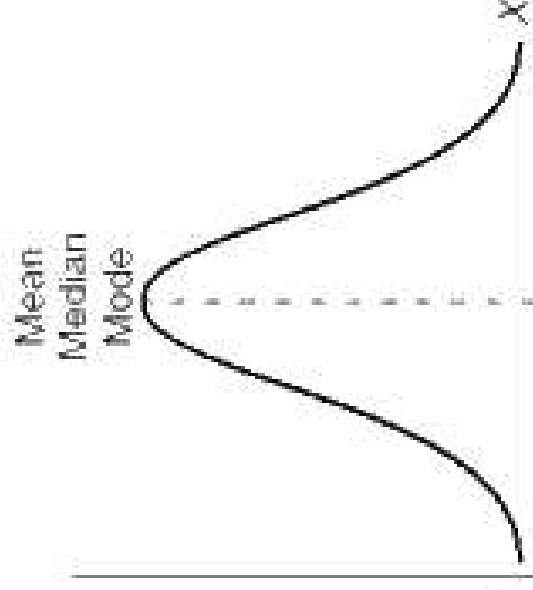


(a) Negatively skewed



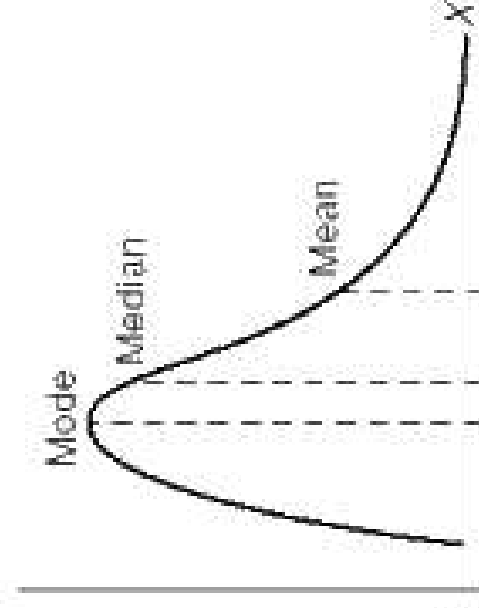
Negative Direction

(b) Normal (no skew)



**Perfectly Symmetrical
Distribution**

(c) Positively skewed



Positive Direction

Variation

Variance

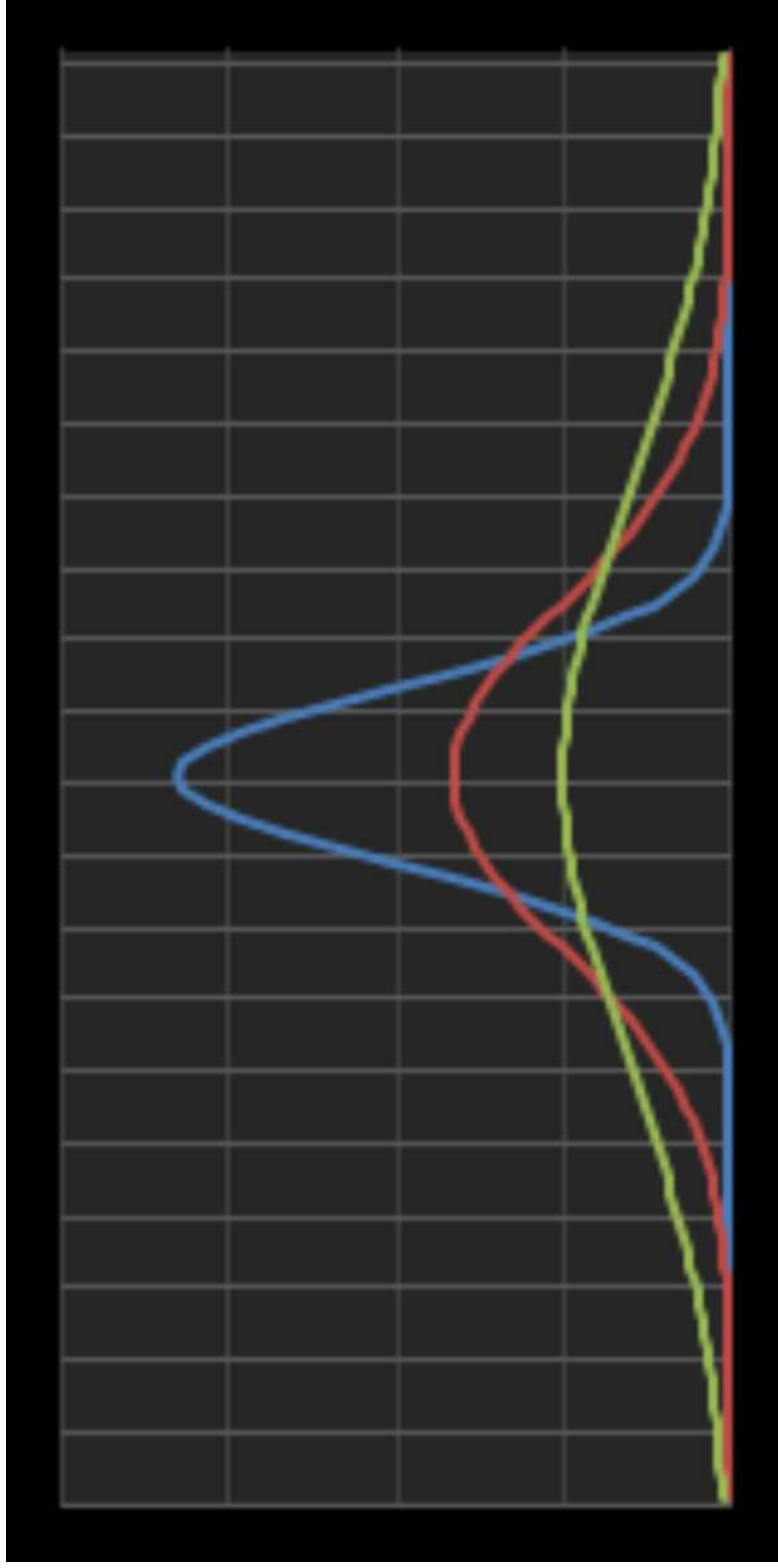
Standard Deviation

Range

Quartiles

Interquartile Range

The spread of the data



Variance

Feature 1	Deviations	Squared Deviations
0	-4	16
1	-3	9
2	-2	4
3	-1	1
4	0	0
5	1	1
5	1	1
6	2	4
7	3	9
7	3	9
40	0	54

Mean = 4

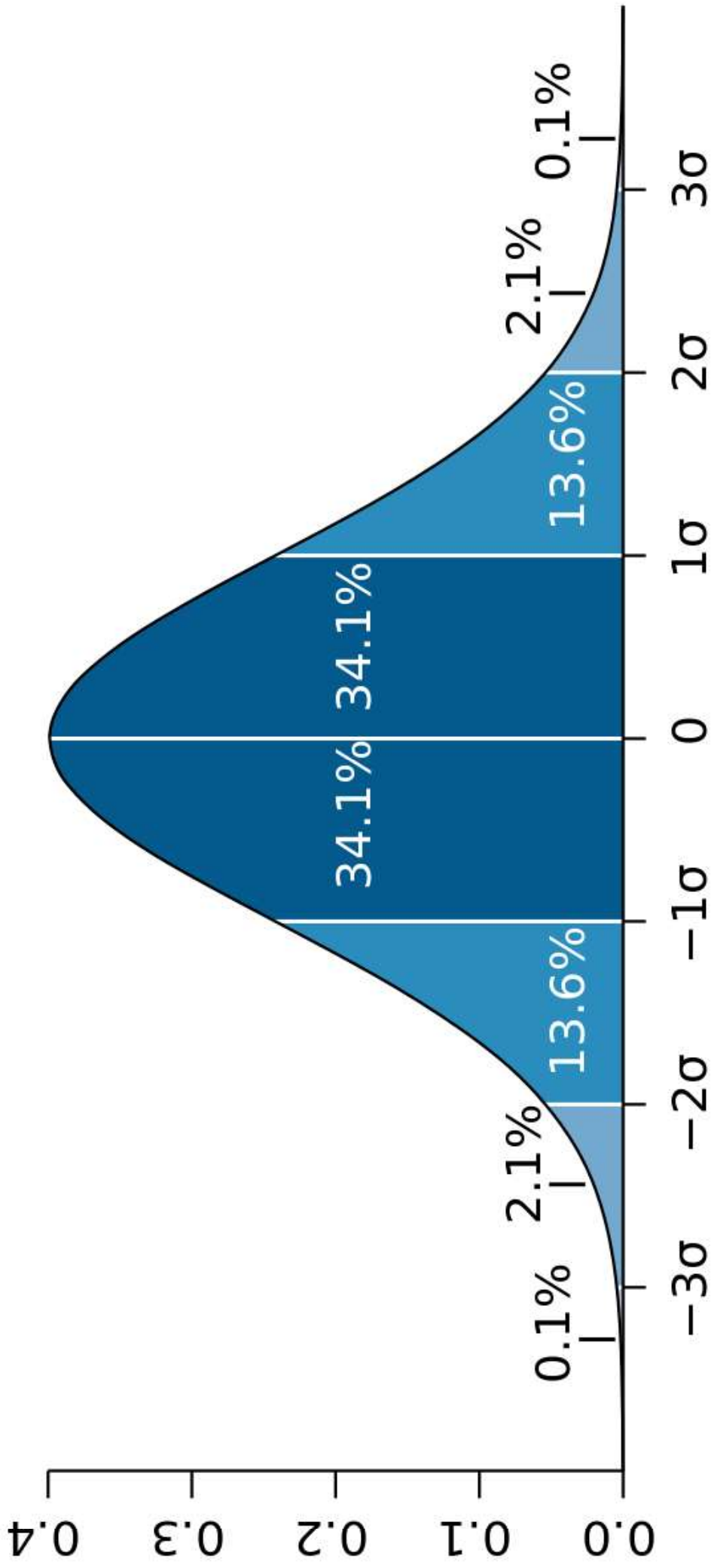
$54/9 = 6$

Standard Deviation

Feature 1	Deviations	Squared Deviations
0	-4	16
1	-3	9
2	-2	4
3	-1	1
4	0	0
5	1	1
5	1	1
6	2	4
7	3	9
7	3	9
40	0	54

Mean = 4

$$\sqrt{6} = 2.45$$



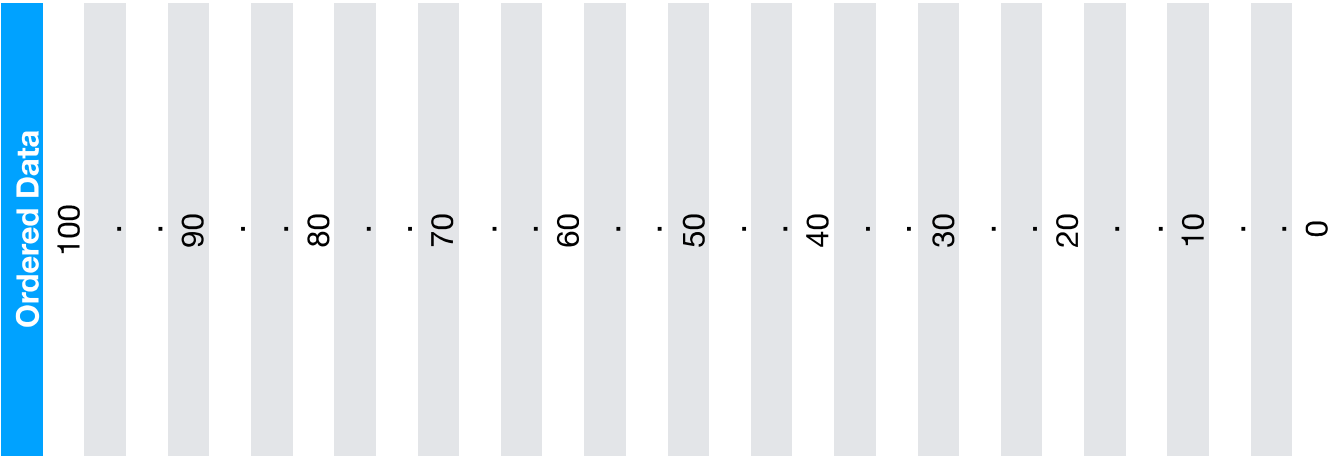
Range

Feature 1	Deviations	Squared Deviations
0	-4	16
1	-3	9
2	-2	4
3	-1	1
4	0	0
5	1	1
5	1	1
6	2	4
7	3	9
7	3	9
40	0	54

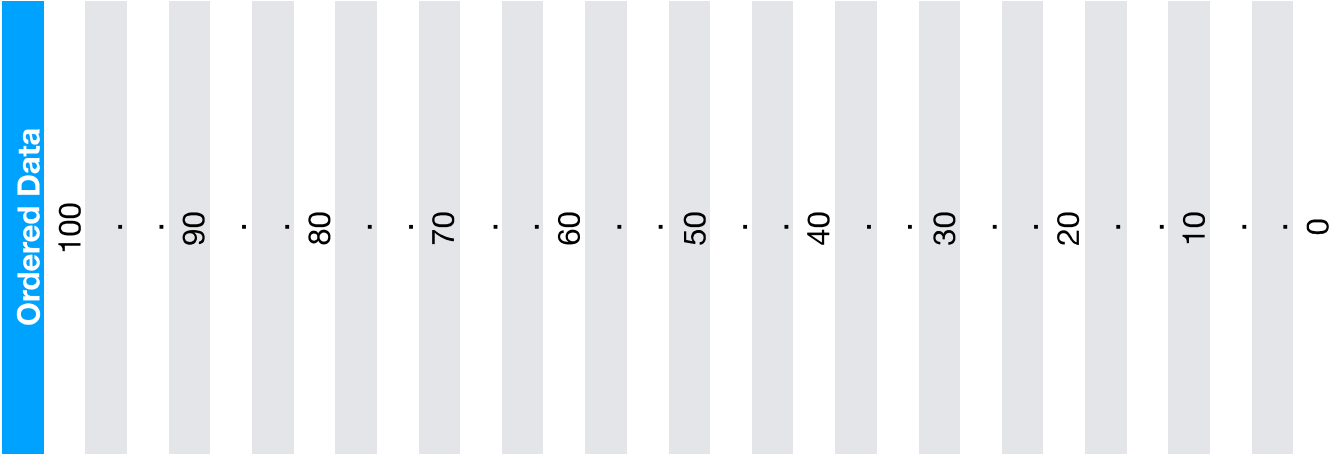
Max value = 7
Min value = 0

7-0 = 7

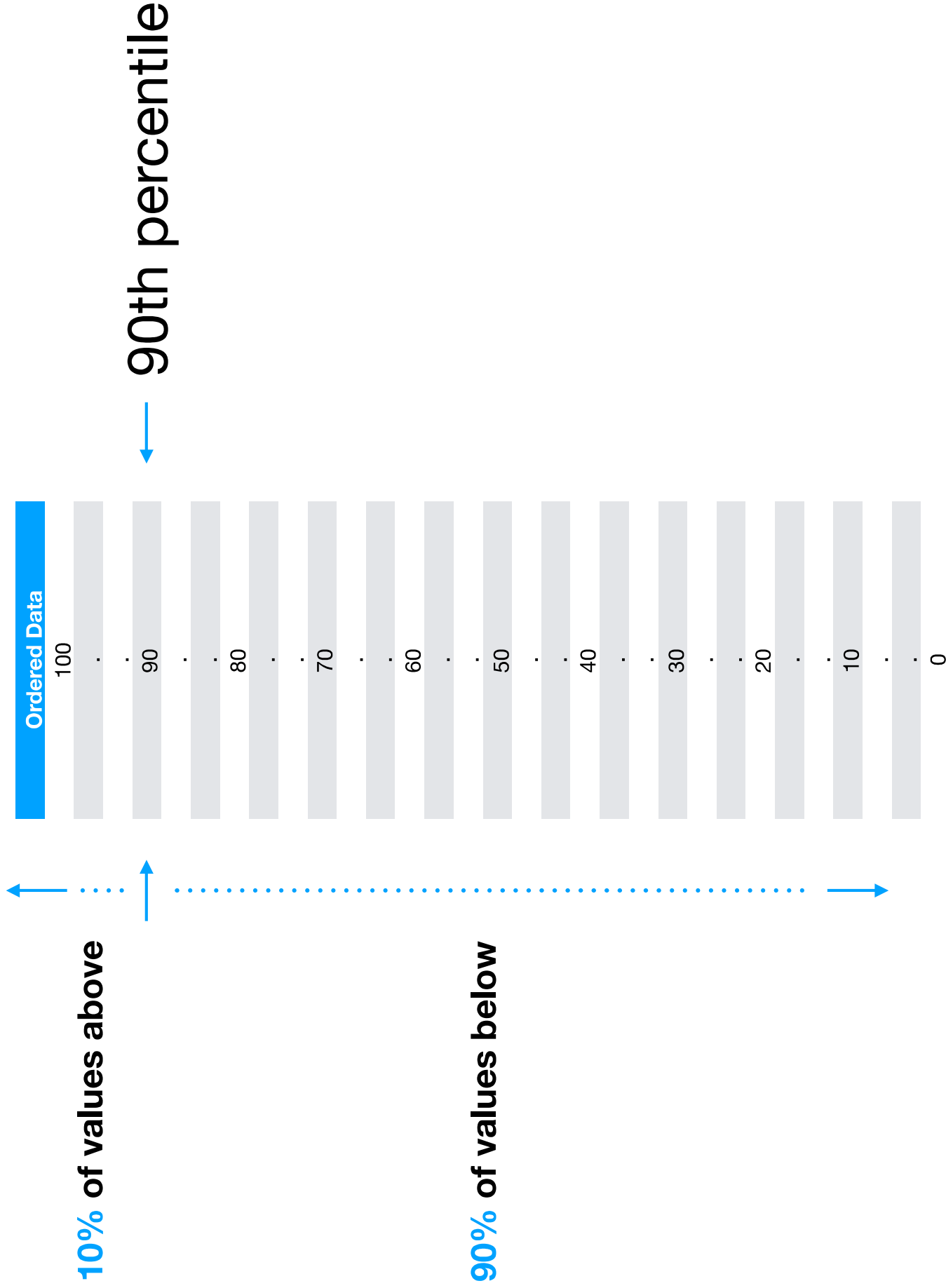
Percentiles



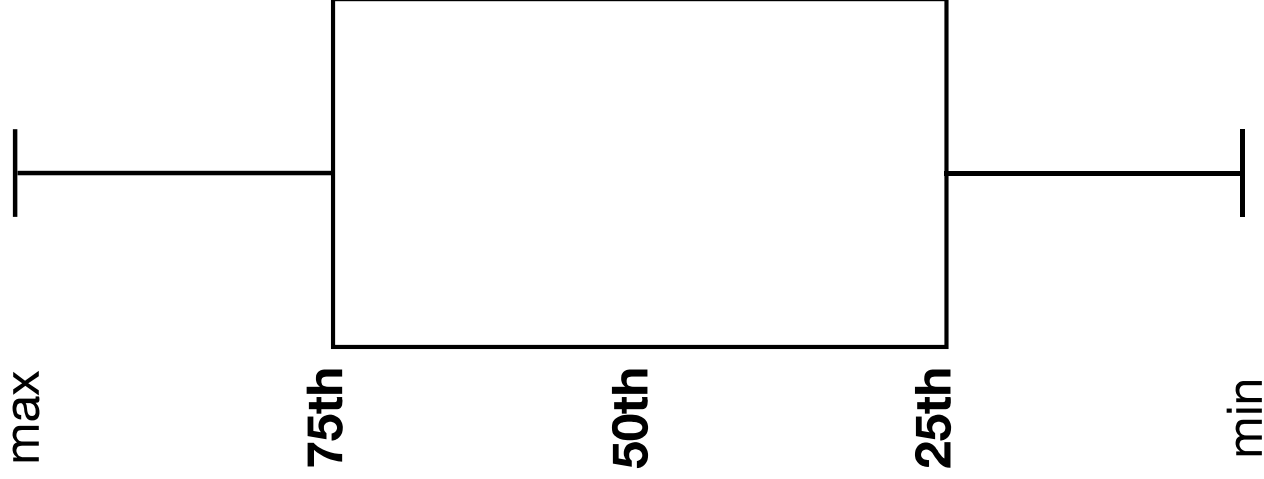
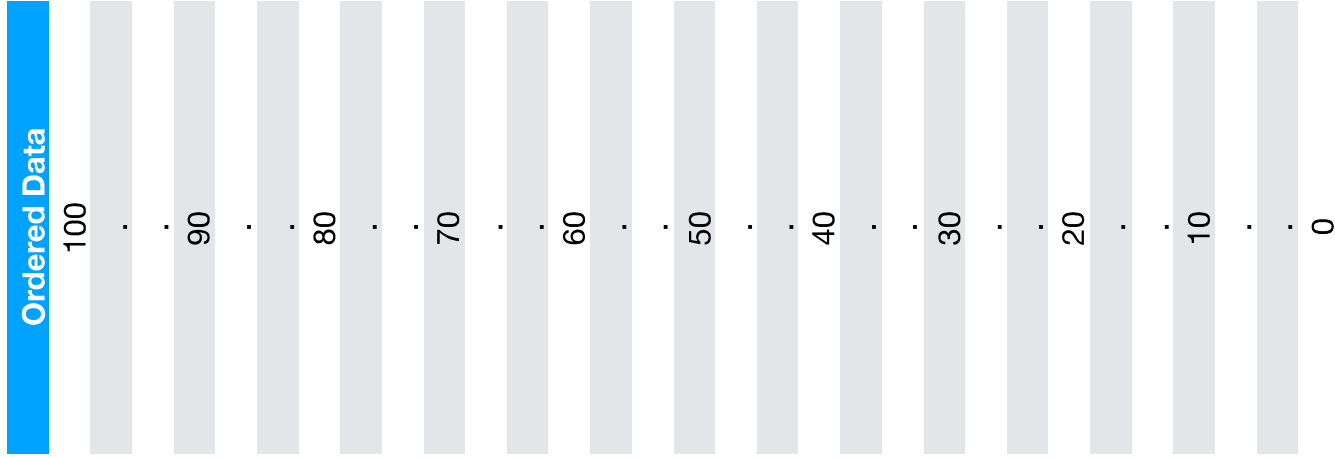
Percentiles



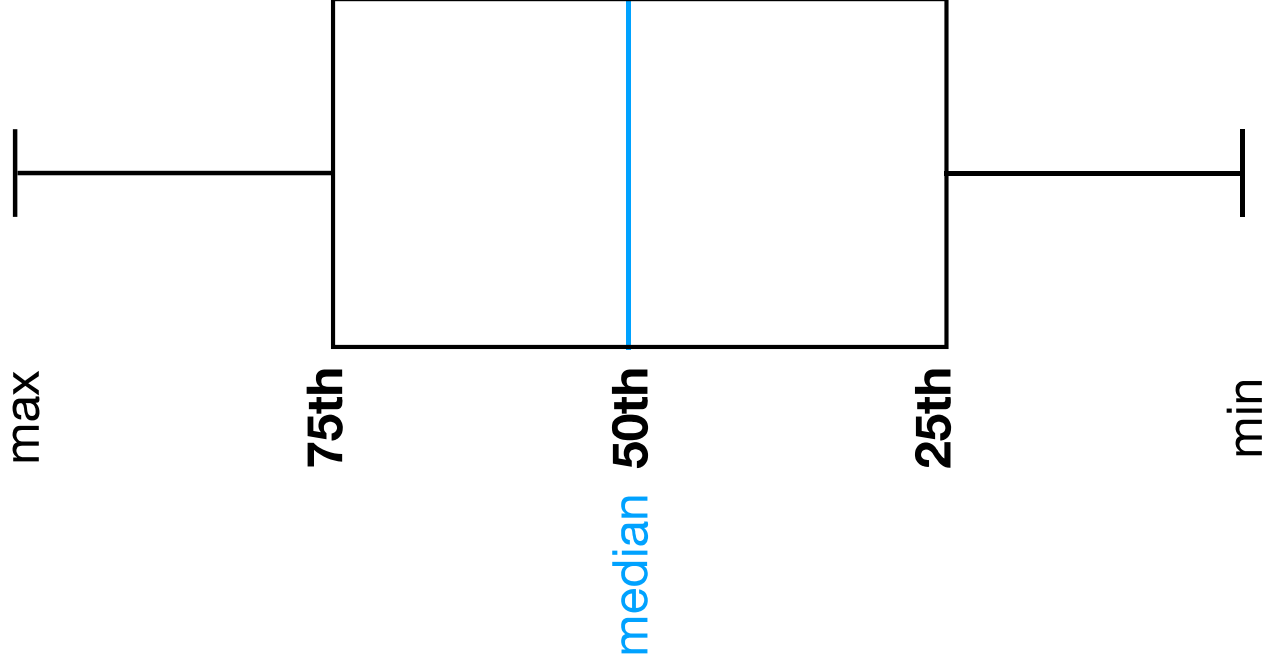
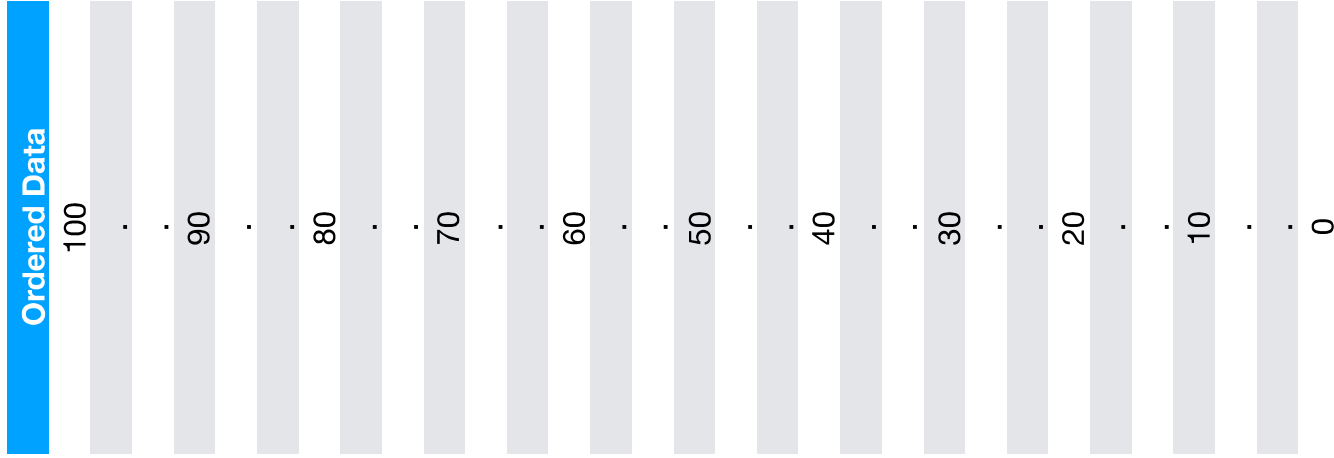
Percentiles



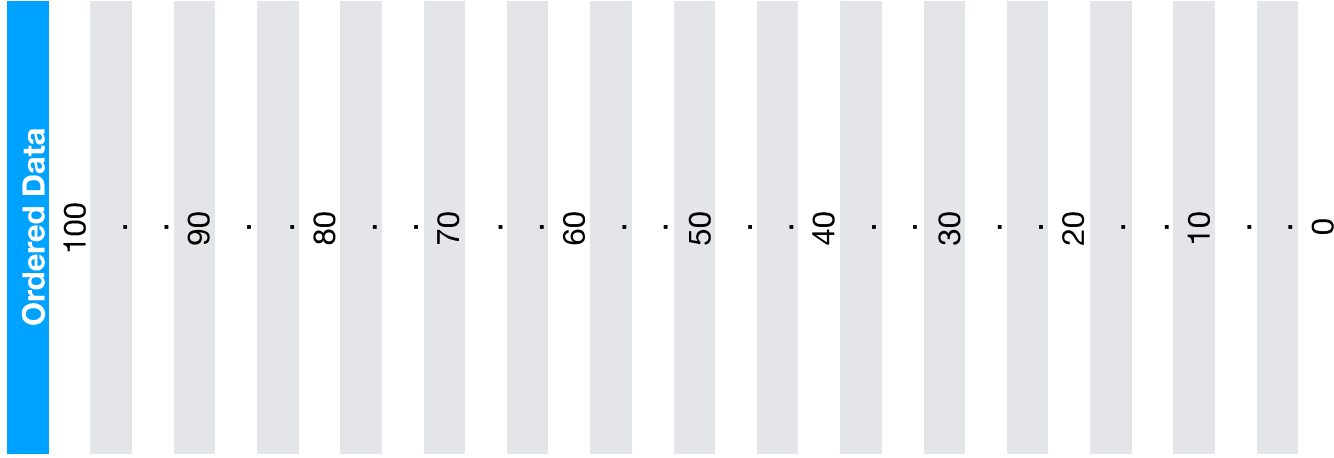
Quartiles



Quartiles



Quartiles



max

75th

median 50th

25th

min

IQR

Q3

Q2

Q1