9.7 Measures of Dispersion

Variation Interval : The interval with the lowest and highest data: $[X_{min}, X_{max}]$

Interquartile Interval: The interval $[Q_1, Q_3]$
  50% of the data lies in this interval

Range (R): The difference between the highest and lowest value. $R = X_{max} - X_{min}$

Interquartile Range (I): The difference between Q_3 and Q_1 $I = Q_3 - Q_1$

Note that **range** and **interquartile range** refer to single numerical values

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Ex 1: A group of 11 friends are playing a game of bowling. Here are their scores

123 99 139 100 88 86 133 100 153 112 93

We first need to rearrange the data

86   88   93   99   100   100   112   123   133   139   153

n =   min =   max =

Q_1 = Q_2 = Q_3 =

Variation interval =   **R** =

Interquartile interval =   **I** =

Which score is less than the median but more than Q1?

Ex 2 – Ruler Reaction Time (cm)

Boys
6 9 9 9 11 12 14 14 14 14 15 15 17

Girls
9 9 10 11 11 11 12 13 14 14 15 15 18

Mean   Mode

Median   Range

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