

1. Solution

The sample size, n , is 56. We determine the indices and values of Q1, Q2, and Q3.

Quartile	Formula for i	i	x
Q1	$\lceil 0.25 \times 56 \rceil$	14	33.23
Q2	$\lceil 0.5 \times 56 \rceil$	28	34.14
Q3	$\lceil 0.75 \times 56 \rceil$	42	34.7

We determine the IQR.

$$\begin{aligned} \text{IQR} &= Q3 - Q1 \\ &= 34.7 - 33.23 \\ &= 1.47 \end{aligned}$$

We determine the outlier boundaries.

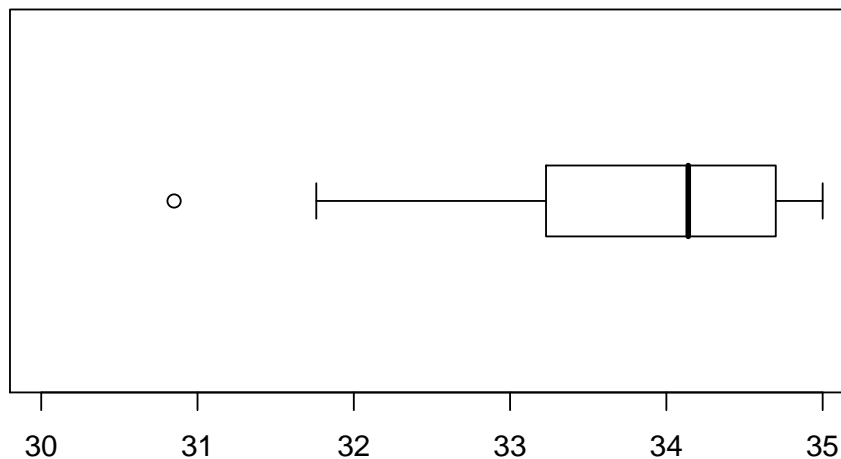
$$\begin{aligned} \text{lower boundary} &= Q1 - 1.5 \times \text{IQR} \\ &= 33.23 - 1.5 \times 1.47 \\ &= 31.025 \end{aligned}$$

$$\begin{aligned} \text{upper boundary} &= Q3 + 1.5 \times \text{IQR} \\ &= 34.7 + 1.5 \times 1.47 \\ &= 36.905 \end{aligned}$$

We determine the outliers.

$$\text{outliers} = \{30.85\}$$

We identify the ends of the whiskers: 31.76 and 35. We plot the boxplot.



2. Solution

The sample size, n , is 56. We determine the indices and values of Q1, Q2, and Q3.

Quartile	Formula for i	i	x
Q1	$\lceil 0.25 \times 56 \rceil$	14	28.05
Q2	$\lceil 0.5 \times 56 \rceil$	28	30.11
Q3	$\lceil 0.75 \times 56 \rceil$	42	31.76

We determine the IQR.

$$\begin{aligned}
 \text{IQR} &= Q3 - Q1 \\
 &= 31.76 - 28.05 \\
 &= 3.71
 \end{aligned}$$

We determine the outlier boundaries.

$$\begin{aligned}
 \text{lower boundary} &= Q1 - 1.5 \times \text{IQR} \\
 &= 28.05 - 1.5 \times 3.71 \\
 &= 22.485
 \end{aligned}$$

$$\begin{aligned}
 \text{upper boundary} &= Q3 + 1.5 \times \text{IQR} \\
 &= 31.76 + 1.5 \times 3.71 \\
 &= 37.325
 \end{aligned}$$

We determine the outliers.

$$\text{outliers} = \{22.19\}$$

We identify the ends of the whiskers: 23.41 and 36.87. We plot the boxplot.

