Exercise 1

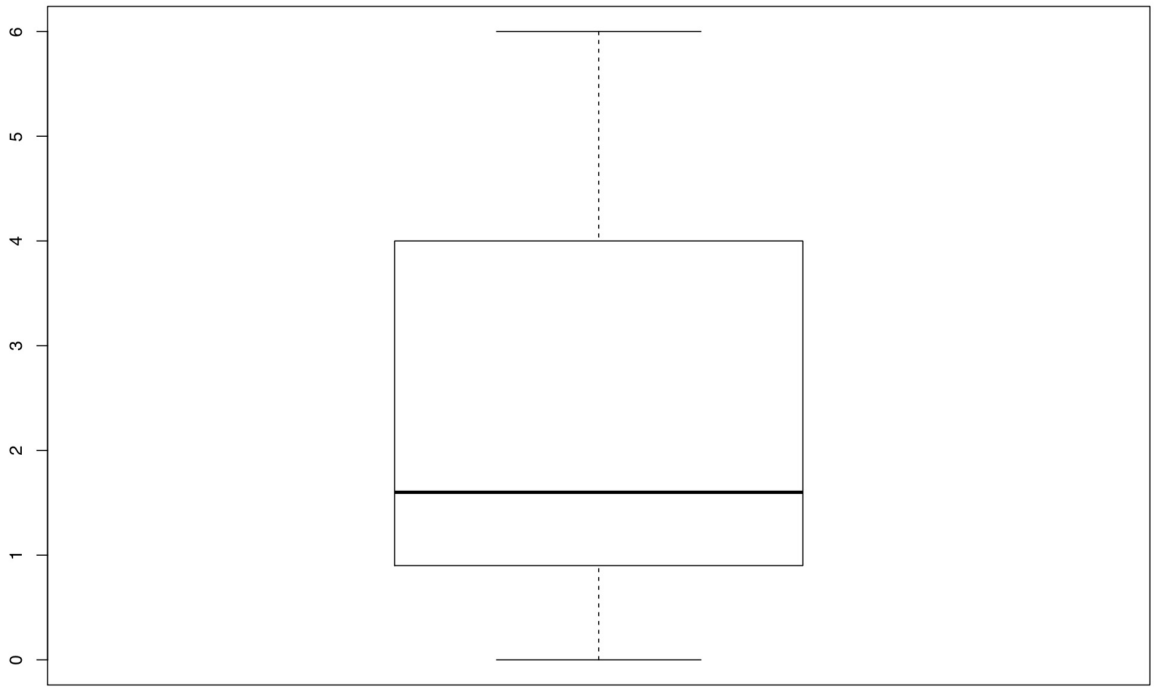
(i) $y_{min} = 0$, $y_{max} = 6$, range=6.

(ii) $q(0.25) = 0.9$, $q(0.5) = 1.6$, $q(0.75) = 4, IQR = 3.1$.

(iii) We calculate

$q(0.75) + 1.5 * IQR = 8.65$ and $q(0.25) - 1.5 * IQR = -3.75$.

The boxplot (created with R, so there might be slight differences to a boxplot constructed by hand.)



No outliers.

(iv) The data are evidently positively skewed (skewed to the right). Possible explanation: the sample mean of the data is larger than the sample median.

Exercise 2

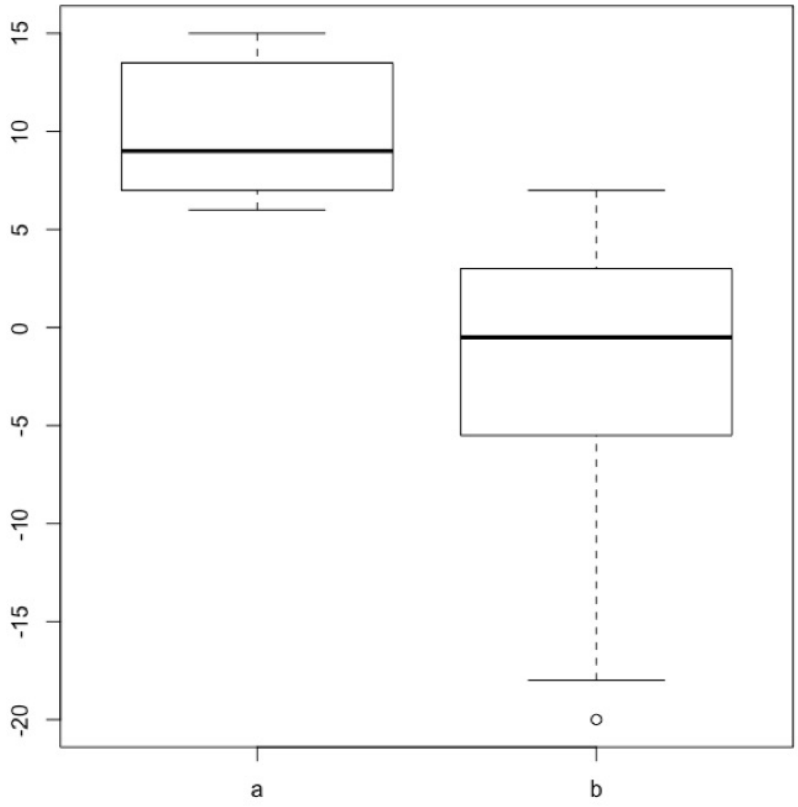
(i) The five number summary

	minimum	$q(0.25)$	$q(0.5)$	$q(0.75)$	maximum
zone A	6	7	9	13.5	15
zone B	-20	-5.5	-0.5	3	7

(ii) Climate zone A: $q(0.25) - 1.5 * IQR = -2.75$, $q(0.75) + 1.5 * IQR = 23.25$.

Climate zone B: $q(0.25) - 1.5 * IQR = -18.25$, $q(0.75) + 1.5 * IQR = 15.75$.

The boxplot (created with R, so there might be slight differences to a boxplot constructed by hand.)



Note the outlier in climate zone B.

(iii.1) TRUE.

(iii.2) TRUE.

(iii.3) TRUE.

(iii.4) This question cannot be answered using the boxplot above.

(iii.5) FALSE

(iii.6) FALSE.