Section 3: Bivariate data

Exercise level 3 solutions

1. (i) b is height in cm as the lowest value on each of the other box plots is too low to be the height of an adult woman.
    Ideal systolic blood pressure is between 90 and 120 mm Hg so that must be d (or c) as a would show most people having blood pressure that is too low.
    d cannot be weight in kg as there are adult women who weigh less than 90 kg and it cannot be waist measurement as there are women with waist measurements less than 90 cm so d must be systolic blood pressure.
    a cannot be waist measurement as that would mean that half of women have a waist measurement of 70 cm or less so a is weight in kg and c is waist measurement in cm

    (ii) (A) The variable on the x-axis has values from about 75 to about 125 so it must be c
    The variable on the y-axis has values from about 55 to about 118 so it must be a

    (B) The variable on the x-axis has values from about 153 to about 179 so it must be b
    The variable on the y-axis has values from about 90 to about 190 so it must be d

    (iii) (A) There is quite strong positive correlation between weight and waist measurement for adult women.

    (B) There is no correlation between height and systolic blood pressure for adult women

2. (i) (A) 0.894 (quite strong positive correlation)
        (B) 0.611
        (C) 0.788

    (ii) Petrol cars – this data set has the strongest correlation.

    (iii) Yes – petrol cars of a particular size seem to have larger CO_2 emission.