Rebecca Dias
18207/19
TE CMPNA
B.

Q1)

B). 44, 50, 38, 96, 42, 47, 40, 39, 46, 50

38, 39, 40, 42, 44, 46, 47, 50, 50, 96

Mean = $\frac{\text{sum of all}}{\text{no of terms}}$ = 49.2

median = $\frac{44+46}{2}$ = 45

mode = 50

max value = 96

min value = 38

mid range = $\frac{\text{max value} + \text{min value}}{2}$

= $\frac{96+38}{2}$ = 67

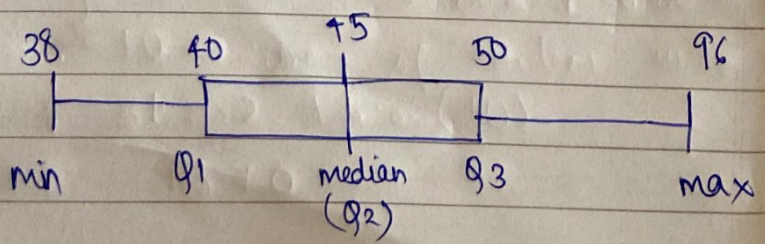
Q1 = median of lower part of data

= median of [38, 39, 40, 42, 44]

= 40

Q3 = median of upper part of data = 50

Box plot



Rebecca Dias
182027/ 19 TE CMPN A

Q2)
C.

	E	A	C	B	D
E	0	1	2	2	3
A	1	0	2	5	3
C	2	2	0	1	6
B	2	5	1	0	3
D	3	3	6	3	0

E/A has min val : 1 → merge

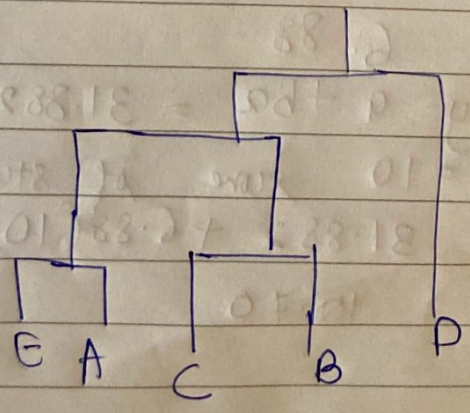
	E/A	C	B	D
E/A	0	2	2	3
C	2	0	1	6
B	2	1	0	3
D	3	6	3	0

C/B has min value : 1 ⇒ merge

	E/A	C/B	D
E/A	0	2	3
C/B	2	0	3
D	3	3	0

C/B/E/A has min value 2 ⇒ merge

	C/B/E/A	D
C/B/E/A	0	3
D	3	0



Rebecca Dias 18202F/19
TE CMPN A

Q2)
B)

x	y	xy	x^2	y^2
1	40	40	1	1600
2	45	90	4	2025
4	57	228	16	3249
5	68	340	25	4624
7	80	560	49	6400
9	94	846	81	8836
28	384	2104	176	26734

$$y = a + bx$$

$$a = \frac{(\Sigma y)(\Sigma x^2) - (\Sigma x)(\Sigma xy)}{n(\Sigma x^2) - (\Sigma x)^2}$$

$$= \frac{(384)(176) - (28)(2104)}{(6 \times 176) - (28)^2}$$

$$= 31.882$$

$$b = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{n(\Sigma x^2) - (\Sigma x)^2}$$

$$= \frac{6 \times 2104 - (28)(384)}{6 \times 176 - (28)^2}$$

$$= 6.88$$

$y = a + bx = 31.882 + 6.88x$

for $x = 10$ score of student with 10 hrs

$y = 31.882 + 6.88(10)$

$= 100.70$

Q3)

A) ① Market Basket analysis is a modelling technique based upon the theory that if you buy a certain group of items, you are more (or less) likely to buy other group of items".

② Example: Market basket transcation data for supermarket:

t1 : {bread, cheese, milk}
t2 : {apple, eggs, salt}
tn : {biscuit, eggs, milk}

③ The information that the customer who purchase bread also bough the milk at the same time

④ This algorithm is very straightforward and major difficulty is that a large number of the rules found may be trivial for anyone familiar to the business strategies

⑤ Example:

The amazon website employs the example of market basket analysis. On a product page, amazon presents users with related products, under the heading of "frequently bought together" and "customers who bought this also bought".