

# STEM & LEAF DIAGRAM

13000      18000      19000      15000      21000  
 12000      23000      22000      11000      23000

Goal: To minimize the repetitions of digits.

STEM	Leaf
1	1, 2, 3, 5, 8, 9      (6)
2	1, 2, 3, 3      (4)

Key:  
 1 | 5 means 15000

Its mandatory to write in increasing order.

**30** The numbers of people travelling on a certain bus at different times of the day are as follows.

17	5	2	23	16	31	8
22	14	25	35	17	27	12
6	23	19	21	23	8	26

(i) Draw a stem-and-leaf diagram to illustrate the information given above. [3]

(ii) Find the median, the lower quartile, the upper quartile and the interquartile range. [3]

0	2	5	6	8	8	(5)
1	2	4	6	7	7	9
2	1	2	3	3	3	5
3	1	5				

Key  
 1 | 6 means 16

Median =  $\left(\frac{n+1}{2}\right)^{th} \text{ term} = \left(\frac{21+1}{2}\right)^{th} \text{ term} = 11^{th} \text{ term} = \boxed{19}$

Average of 16<sup>th</sup> & 17<sup>th</sup>

$$UQ = \frac{3}{4}(n+1)^{th} \text{ term} = \frac{3}{4}(21+1)^{th} \text{ term} = 16.5^{th} \text{ term} = \frac{23+25}{2} = \boxed{24}$$

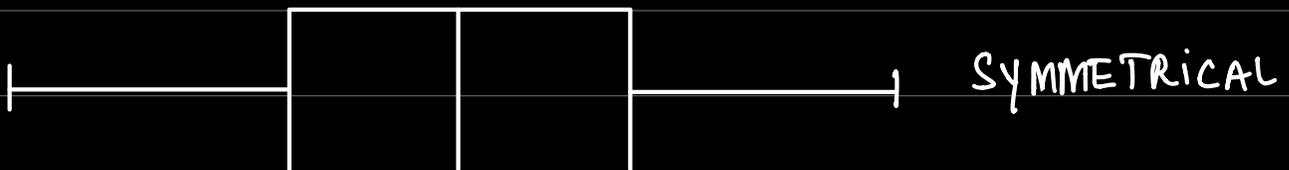
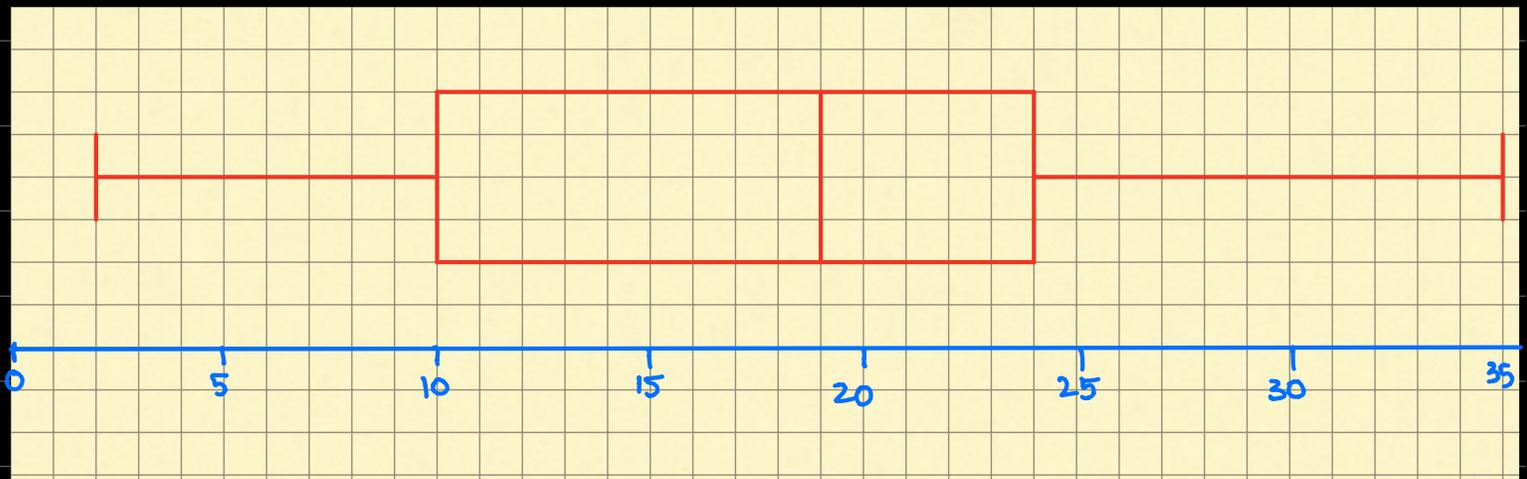
$$LQ = \frac{1}{4}(n+1)^{th} \text{ term} = \frac{1}{4}(21+1)^{th} \text{ term} = 5.5^{th} \text{ term} = \text{Average of } 5^{th} \text{ and } 6^{th} \text{ term}$$

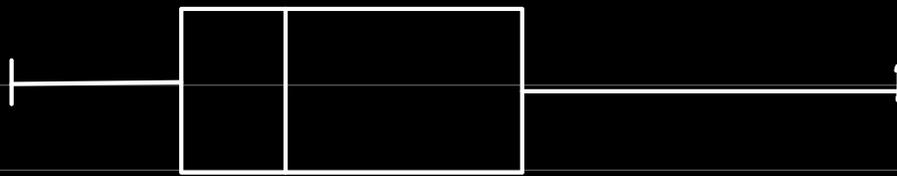
$$\frac{8+12}{2} = \boxed{10}$$

$$\text{Interquartile Range} = UQ - LQ = 24 - 10 = 14$$

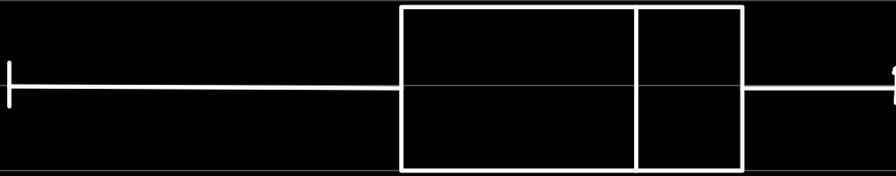
## BOX AND WHISKER PLOT

- |                      |      |
|----------------------|------|
| 1- Max Value of Data | = 35 |
| 2- Min Value of Data | = 2  |
| 3- Upper Quartile    | = 24 |
| 4- Lower Quartile    | = 10 |
| 5- Median            | = 19 |





POSITIVE SKEW



NEGATIVE SKEW.