## Range

The difference between the highest and the lowest observation is the range of the data.

Range = Highest Observation - Lowest Observation

**Example:** The marks (out of 100) obtained by a group of students in a Math test are 85, 76, 90, 85, 39, 48, 56, 95, 81 and 75. Find the:

- 1. Highest and lowest marks obtained by the students.
- **2.** Range of the marks obtained.

**3.** Mean marks obtained by the group.

Firstly, we arrange the marks obtained by the students in ascending order.39, 48, 56, 75, 76, 81, 85, 85, 90 and 95

1. On arranging the marks in ascending order, we see that the highest mark obtained by the student is 95 and the lowest mark is 39.

Highest marks = 39

Lowest marks = 95

**2.** Range is the difference between the highest and the lowest observation of the data.

Range = Highest Observation - Lowest Observation

Range = 95 - 39 = 56

3. Mean marks = 
$$\frac{\text{Total marks obtained}}{\text{Number of student}}$$
  
=  $\frac{39+48+56+75+76+81+85+85+90+95}{10} = \frac{730}{10} = 73$