☆ Skewness

1)

| mean = median = mode |

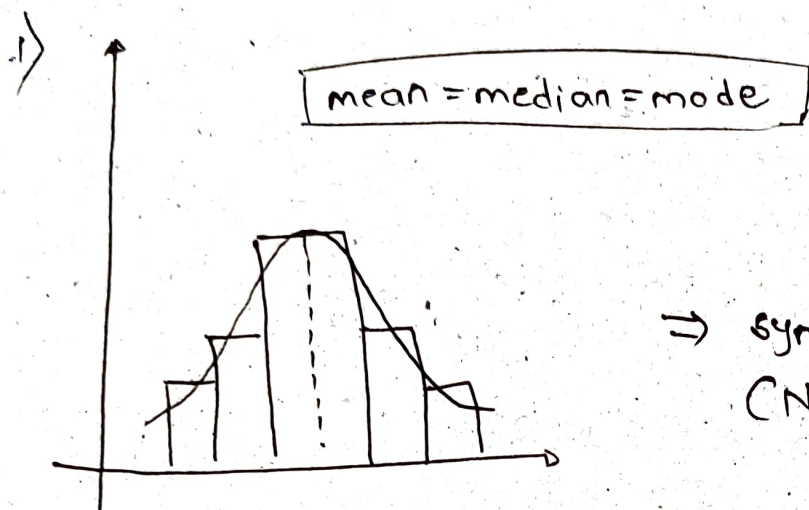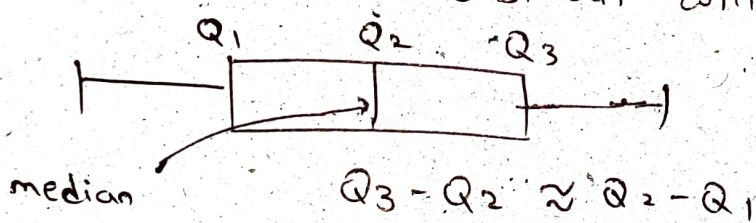$\Rightarrow$ symmetrical distribution (NO SKEWNESS)

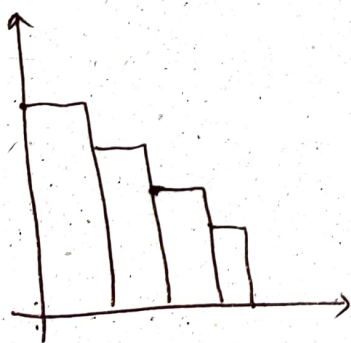The mean, median and mode all are perfectly at the center.
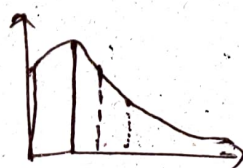
Hence, boxplot for above distribut^n will look like:

$Q_3 - Q_2 \approx Q_2 - Q_1$

eg $\rightarrow$ Normal / Gaussian Distribution

2) Right skewed

$\Rightarrow$ positive skewed (right)

— mean
-- median
.... mode

Boxplot for right skewed →

$Q1$ $Q2$ $Q3$
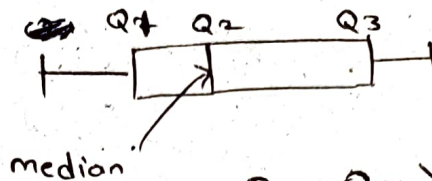
median

$Q_3 - Q_2 > Q_2 - Q_1$

mean > median > mode

3) **Left skewed** (−ve skewed)
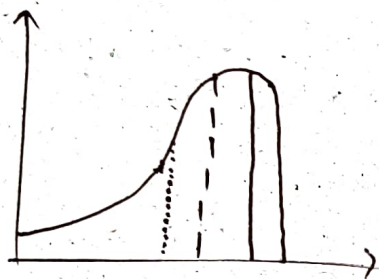
······ mean
-- -- median
—— mode

mean < median < mode

box-plot for left skewed →

Q_1 Q_2 Q_3
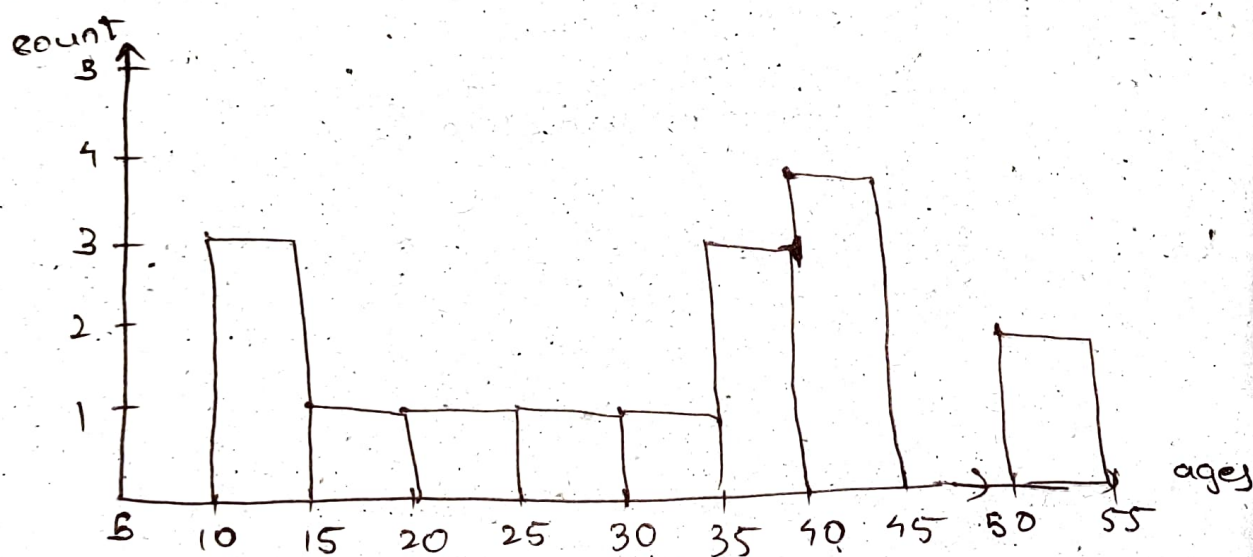
median
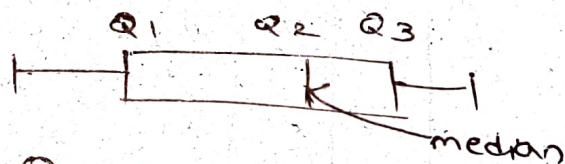
$Q_2 - Q_1 > Q_3 - Q_2$

① **Histograms** - It is nothing but representation of frequency of elements.

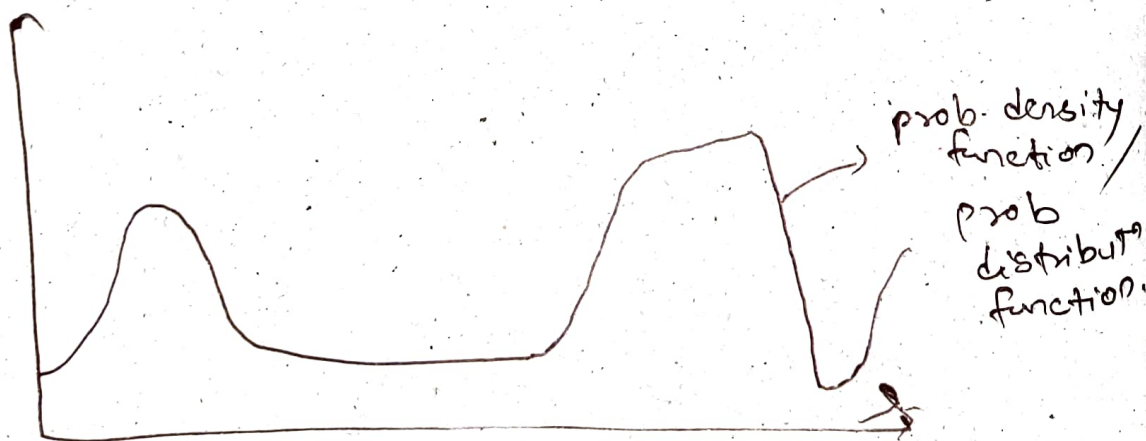ages = {10, 12, 14, 18, 24, 26, 30, 35, 36, 37, 40, 41, 42, 43, 50, 51}

Suppose   bins = 10

$$\therefore \text{bin size} = \frac{50-0}{10} = ⑤$$

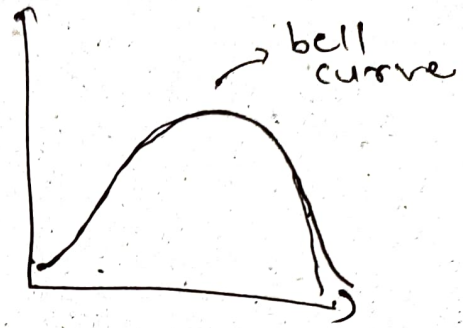**Note:** while checking range (say 10 to 15), we check for ≥ 10 but < 15.

Smoothening above histogram

→ prob. density function / prob distribut⁰ function.
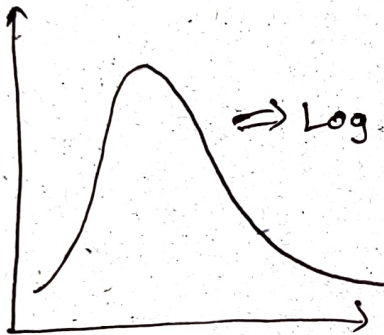
histogram

smoothen →

bell curve

normal / gaussian distribution

⇒ Log Normal Distribution