2.1 Frequency Histograms and Distribution

Frequency Histogram

it is a specific type of bar chart made from data in a frequency table.
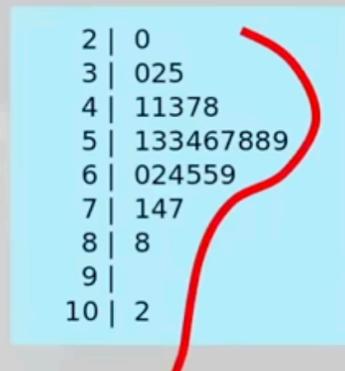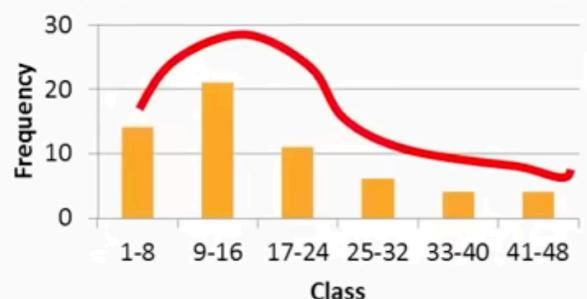
-frequency histograms and relative frequency histogram

-the purpose of the chart is to identify the 'distribution' of the data/to reveal the distribution

Distributions
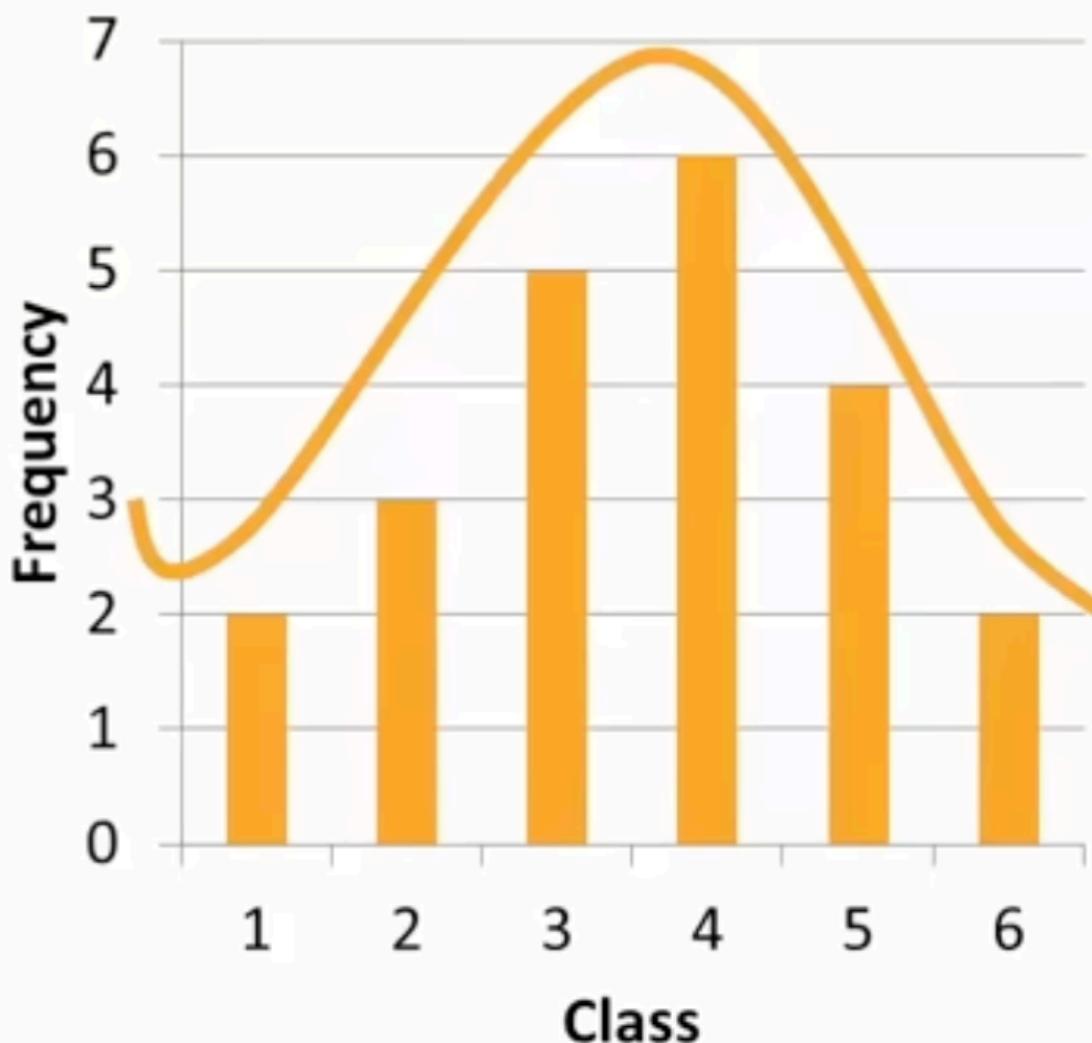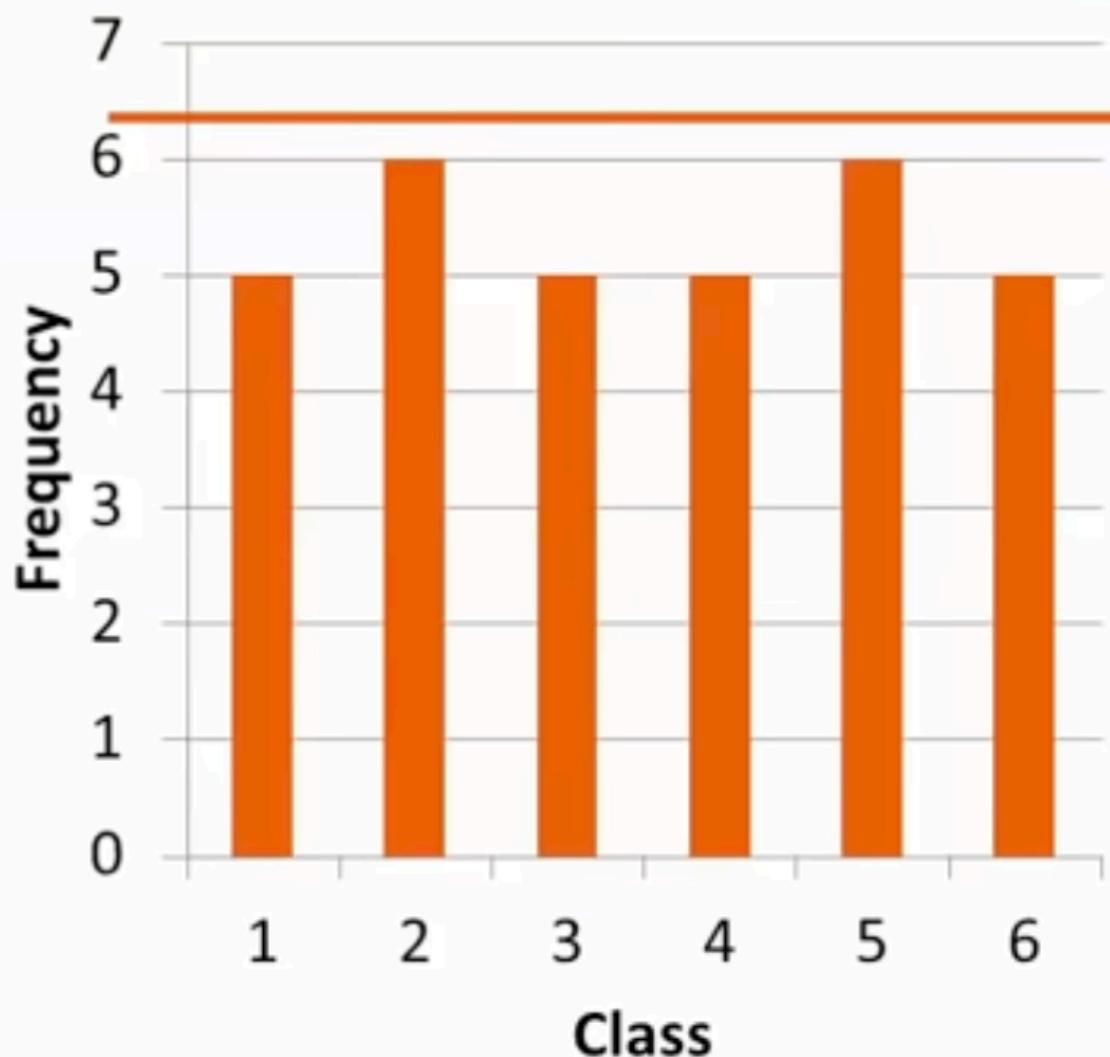
Type of Distribution
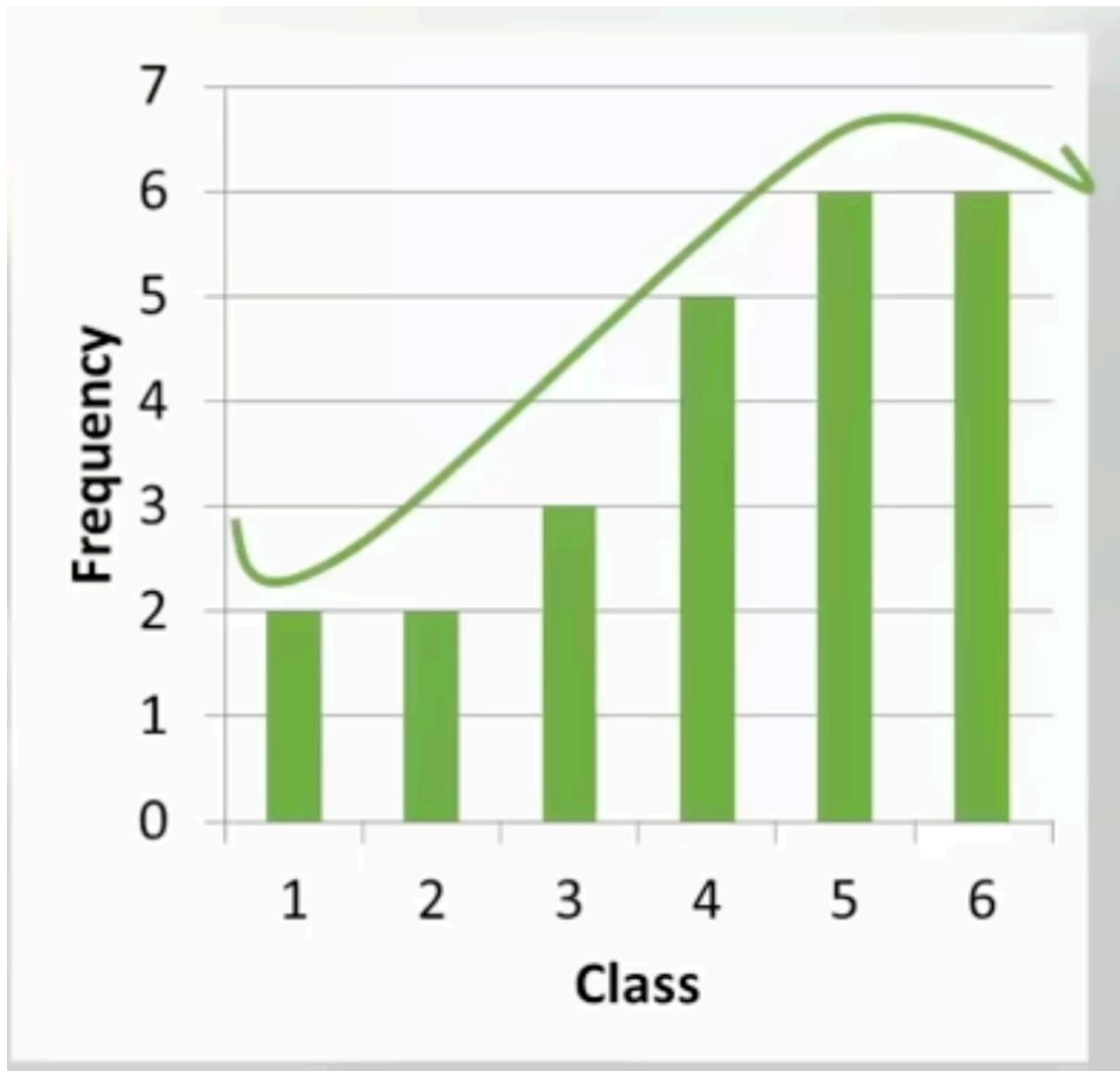
1. Normal Distribution (Mound-shaped symmetrical)
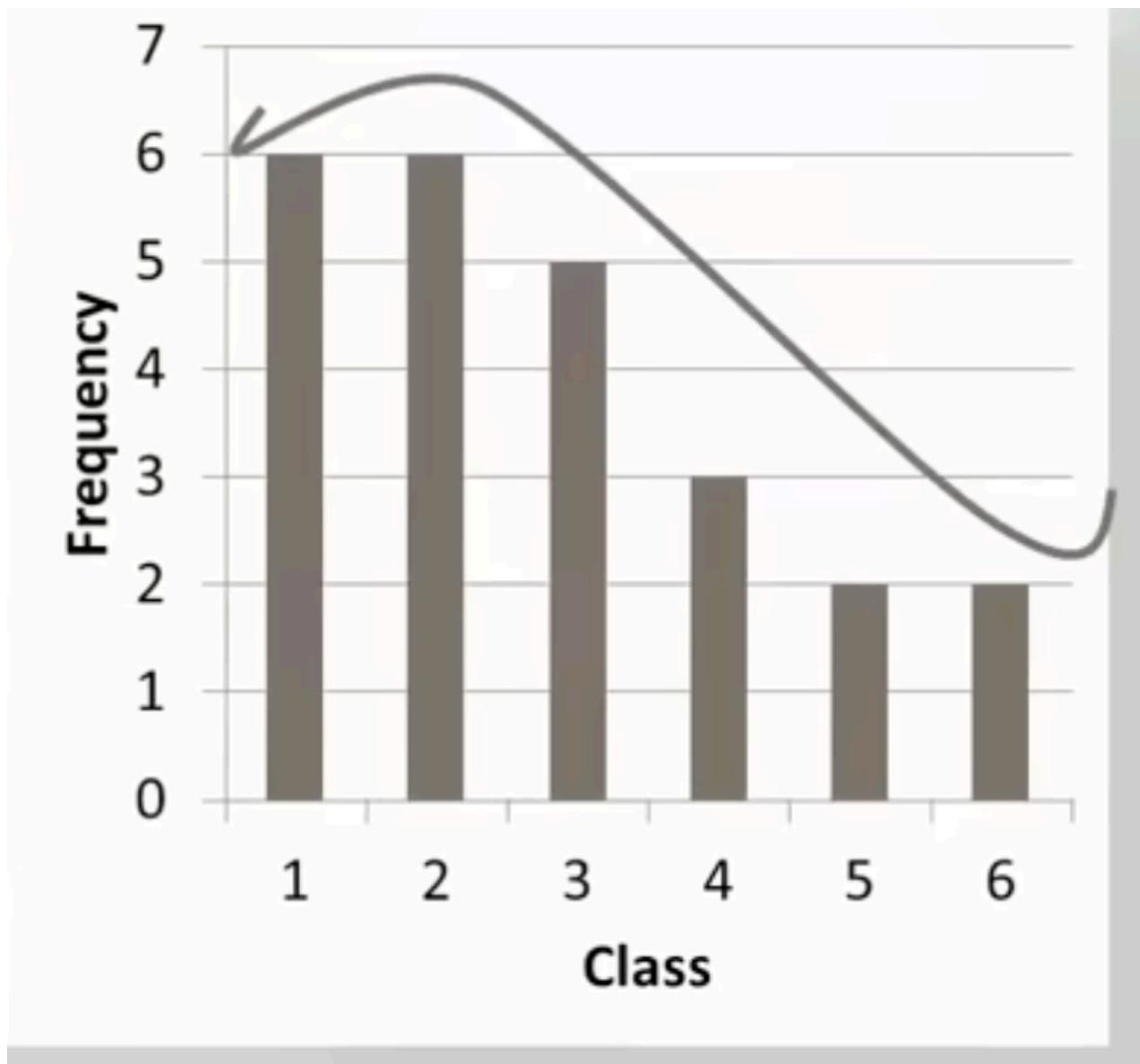
2. Uniform Distribution
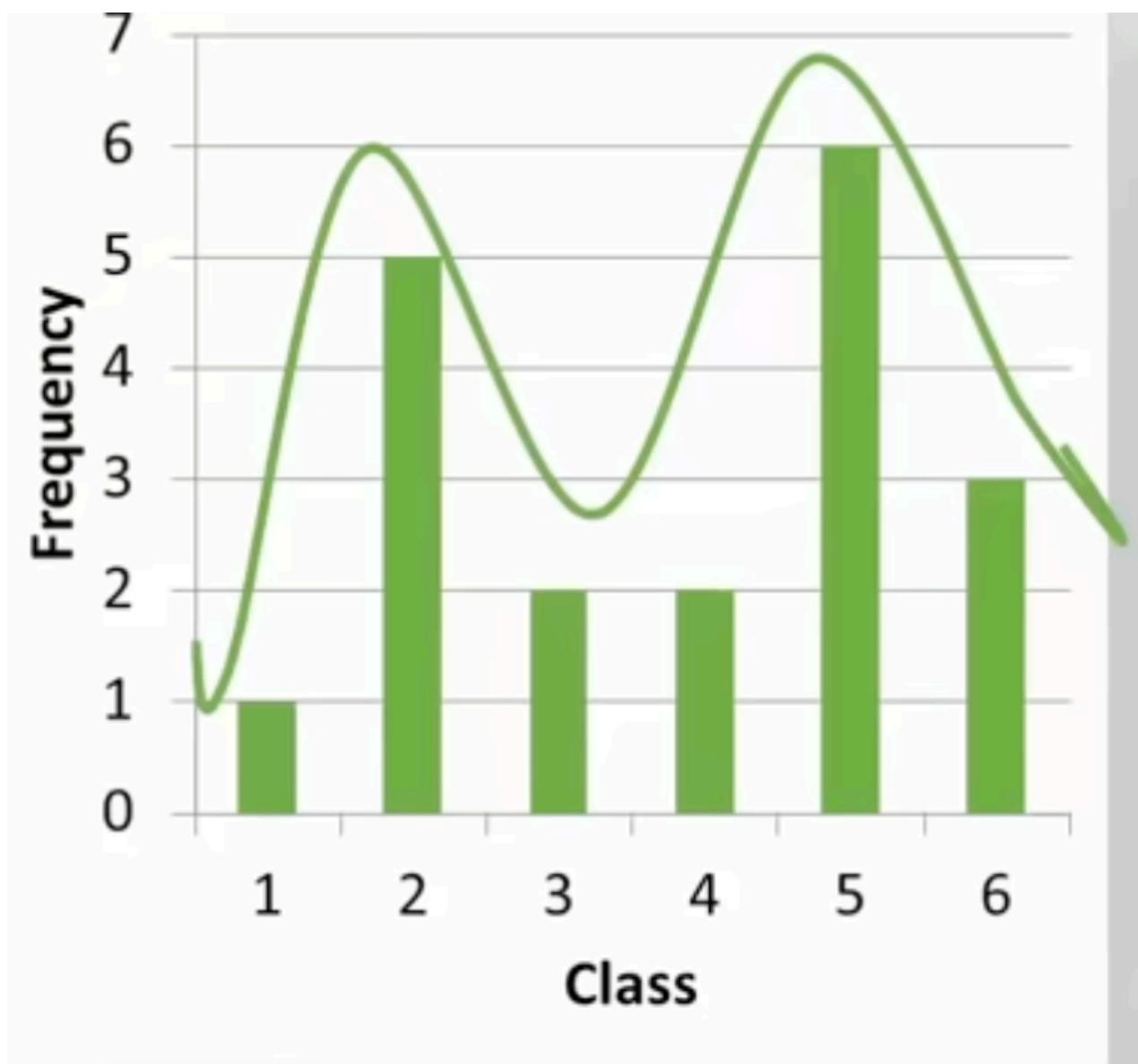
3. Skewed left distribution

4. Skewed right distribution
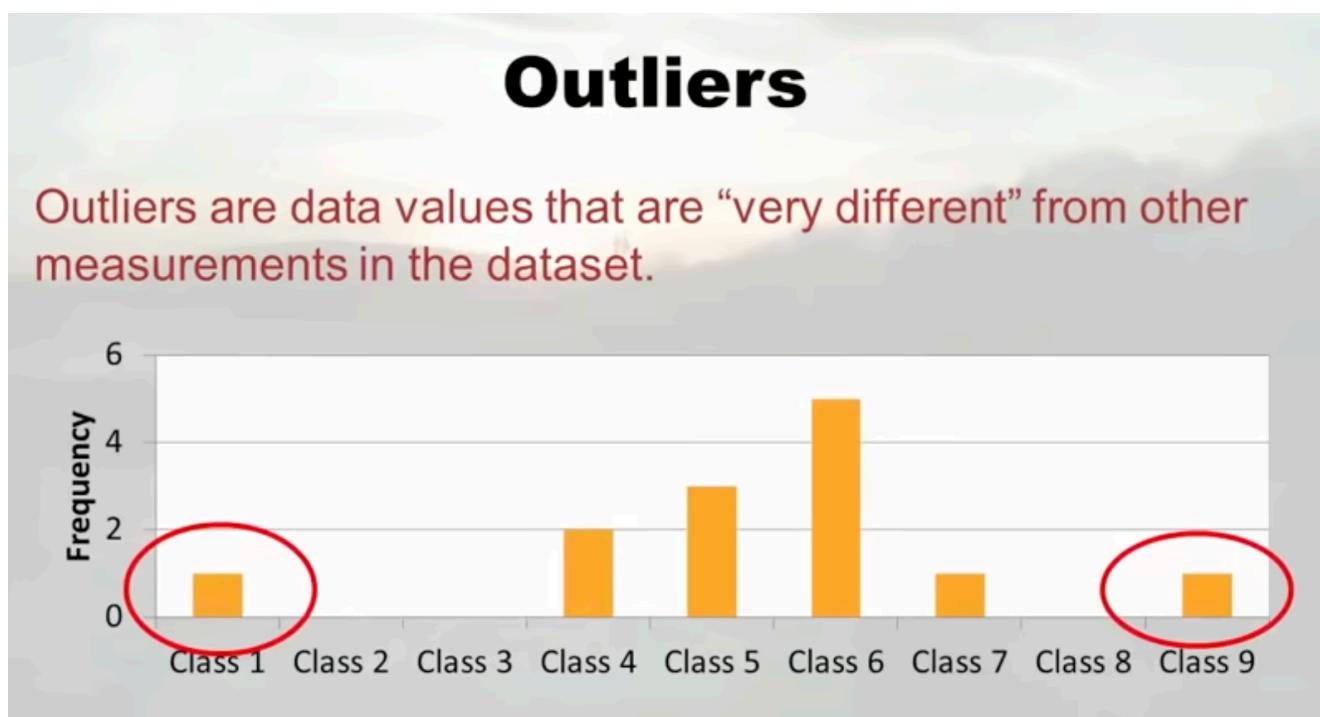
5. Bimodal distribution

Outliers

Outliers

Outliers are data values that are "very different" from other measurements in the dataset.
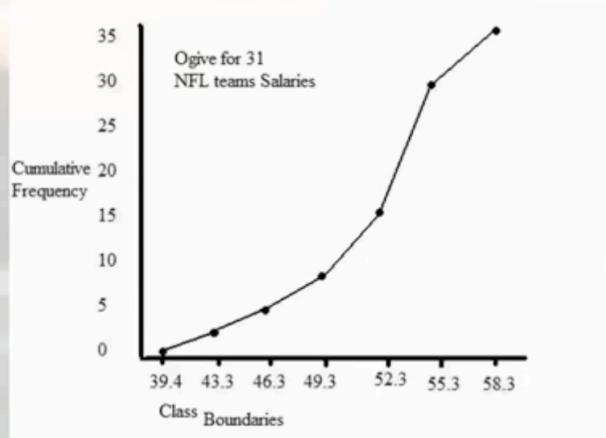
Cumulative Frequency

Class Limits	Frequency	Cumulative Frequency
1-8 miles	14	14
9-16 miles	21	14+21=35
17-24 miles	11	35+11=46
25-32 miles	6	46+6=52
33-40 miles	4	52+4=56
41-48 miles	4	56+4=60
Total	60	60

Chart of Cumulative Frequency: Ogive

- Classes along the x axis, and cumulative frequency along the y-axis
- Because cumulative frequency goes up from class to class, the ogive line always goes up to the top frequency.

Ogive for 31 NFL teams Salaries

Cumulative Frequency

Class Boundaries

Example of the Ogive

Marks	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of Students	6	4	15	5	8	7	5

Solution:

First of all, we have to convert the *frequency distribution* into a less than cumulative frequency distribution.

Marks	No. of Students (f)	No. of Students (cf)
Less than 20	6	6
Less than 30	4	6 + 4 = **10**
Less than 40	15	6 + 4 + 15 = **25**
Less than 50	5	6 + 4+ 15 + 5 = **30**
Less than 60	8	6 + 4 + 15 + 5 + 8 = **38**
Less than 70	7	6 + 4 + 15 + 5 + 8 + 7 = **45**
Less than 80	5	6 + 4 + 15 + 5 + 8 + 7 + 5 = **50**