

3.6 Common Distributions

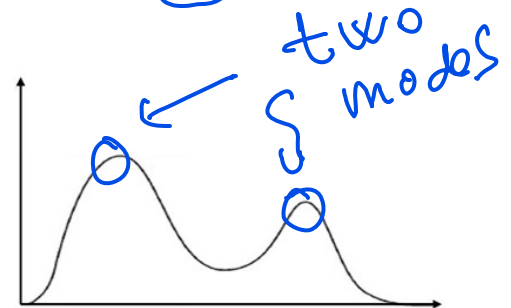
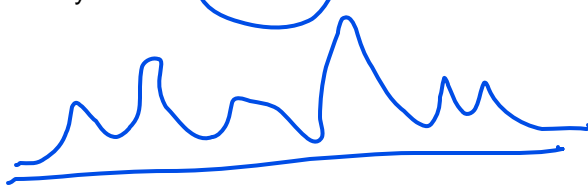
A Normal Distribution

- ✓ Data are distributed symmetrically about the mean
- ✓ The mean, median and mode are close to each other
- ✓ Has a bell-shape



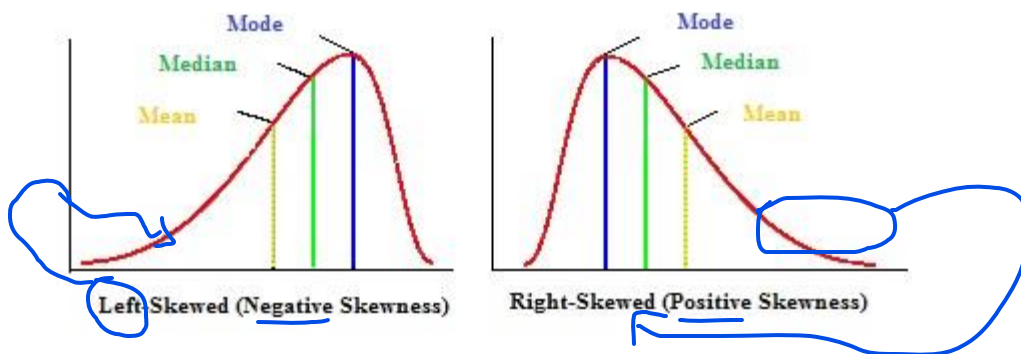
B Bimodal Distribution

- ✓ Has two picks (Modes)
- ✓ Is symmetrical with frequencies clustering around two modes
- ✓ Distributions may be also multi-modal

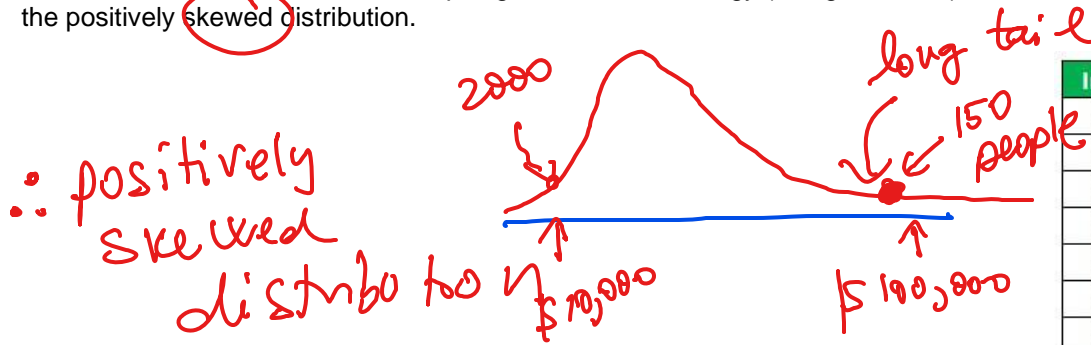


C Skewed Distribution

- ✓ Asymmetrical distribution with one mode
- ✓ Mode is the peak
- ✓ Distribution is skewed towards the long tail
- ✓ Mean, median and mode are not close to each other



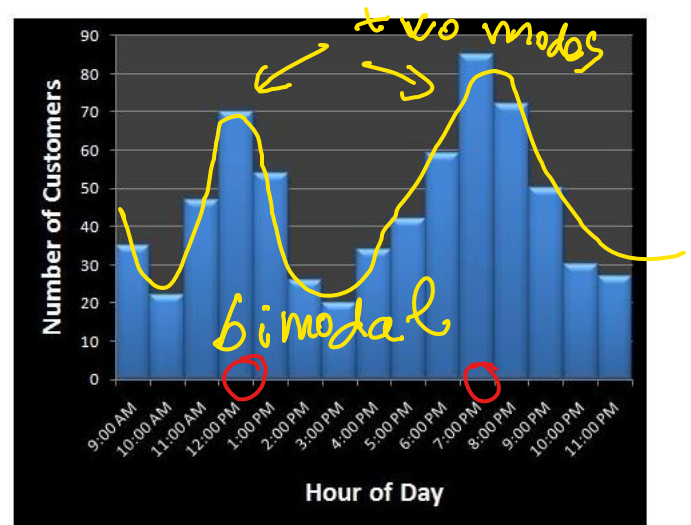
Example 1. In the first column, the Income category is given, and in the second column, the number of persons falling in the respective income group is given. Use technology (Google Sheets) to find whether it is an example of the positively skewed distribution.



Income (\$)	People
\$ 10,000	2000
\$ 20,000	4000
\$ 30,000	6000
\$ 40,000	5000
\$ 50,000	3000
\$ 60,000	1000
\$ 70,000	1500
\$ 80,000	500
\$ 90,000	100
\$ 1,00,000	150

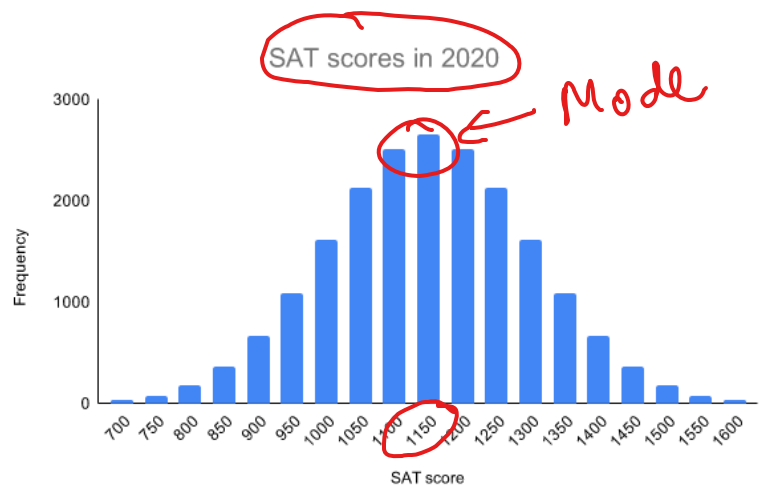
Example 2. Explain this histogram. Why is bimodal? What is the meaning if the two modes?

∴ is a bimodal distribution
at 12 AM (Lunch)
at 7 PM (Dinner)



Example 3. What kind of distribution is represented on the right figure? What can you say about mean, median and mode?

∴ is a normal distribution
Mean \approx Mode
 \approx Median = 1150



Reading Pages 148-152
Homework Pages 153-155 # 3, 5, 6