Creating Frequency Distribution and Histograms

Frequency Distribution: A List of Values with corresponding frequencies

Class Width: Difference between the two "Lower class Limits"

Lower Class Limit: Smallest Value belonging to a class

Upper Class Limit: Largest Value in a class

Steps:

1. Determine number of classes: 8
2. Class Width: $\frac{\text{Max Value} - \text{Min Value}}{\text{\# of Classes}} = \frac{44-18}{8} = \frac{26}{8} = 3.25 \rightarrow 4$ ~ Round Up
3. Start with smallest value: 18
4. Create classes with class width
   * Lower class limit 1st

Example

AGE	Frequency	Rel. Frequency	Cumulative Freq.
18-21	25	58.1%	25
22-25	10	23.3%	35 (+10)
26-29	4	9.3%	39 (+4)
30-33	2	4.7%	41 (+2)
34-37	1	2.3%	42 (+1)
38-41	0	0%	42 (+0)
42-45	1	2.3%	43 (+1)
46-49	0	0%	43
	n = 43 Σf		

Example Calc. $\frac{25}{43} = 58.1\%$

Given

Relative Freq. Distribution = Percentage

= Class f / Σf

Cumulative Freq. Dist.

- Adds Sequential classes together

Class Width : 4

Lower Class Limit : 18, 22, 26, ... 46

Upper Class Limit : 21, 25, ... 49

Class Midpoint

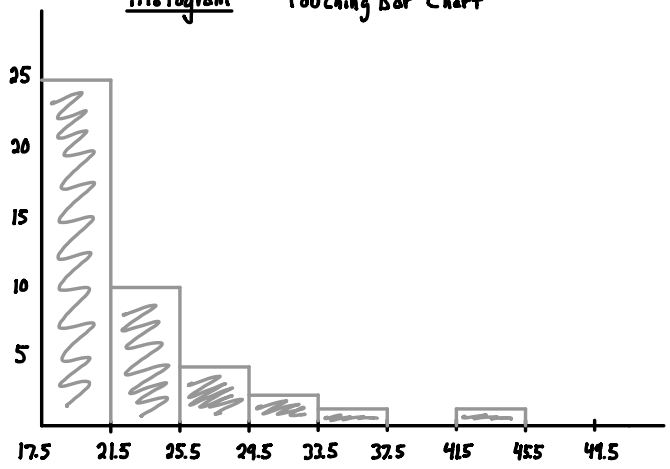
Equation → $\frac{\text{Upper Class} + \text{Lower Class}}{2}$

$\frac{21+18}{2}$ → 19.5, 23.5, 27.5, 31.5, 35.5, 39.5, 43.5, 47.5

Class Boundaries : Used to separate classes without gaps

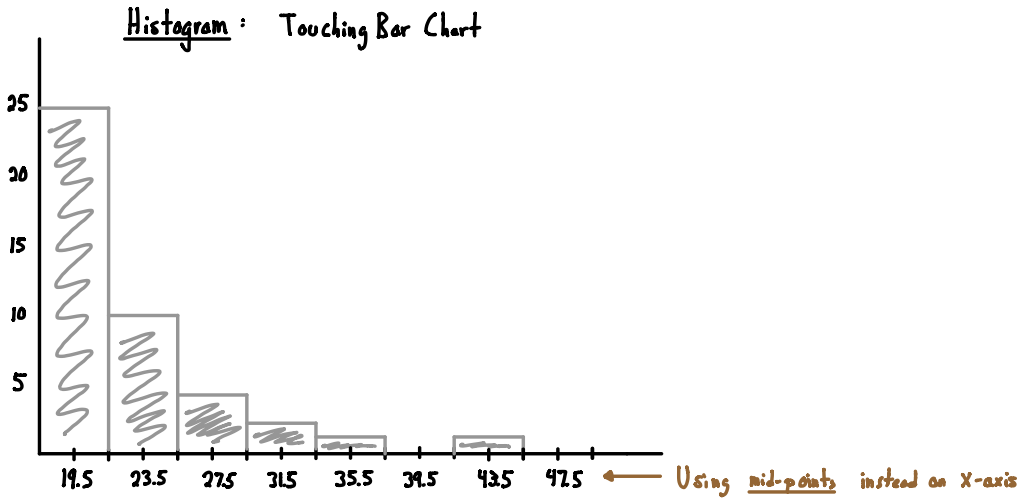
→ 17.5, 21.5, 25.5, 29.5, 33.5, 37.5, 41.5, 45.5, 49.5

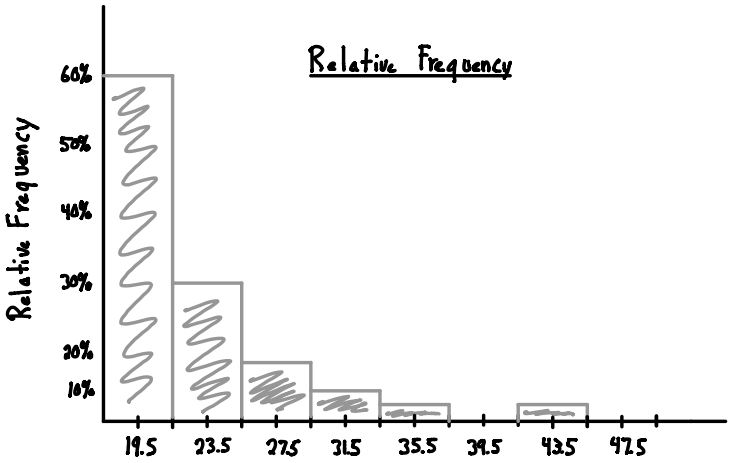
Histogram : Touching Bar Chart

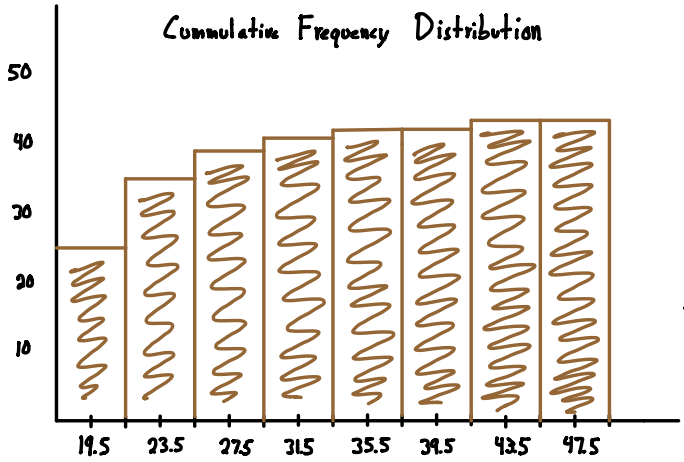


Horizontal : Class midpoints or boundaries

Vertical : Frequency







See when most of the "Growth" is