

1/1

Analyzing Categorical Data

Bar Graphs and Pie Charts

Frequency Table

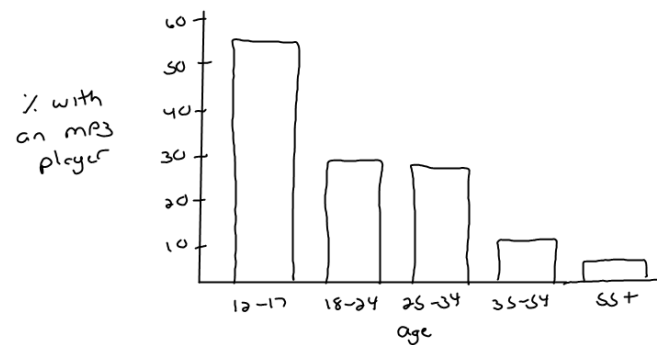
- shows raw data

Relative Frequency Table

- shows frequency relative to the total

<u>ex</u> <u>Age</u>	<u>% in age group with mp3 player</u>
12-17	54
18-24	30
25-34	30
35-54	13
55+	5

a) Bar Graph

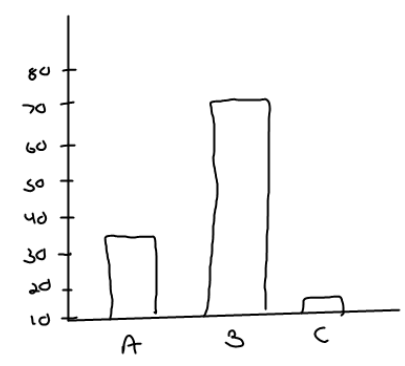
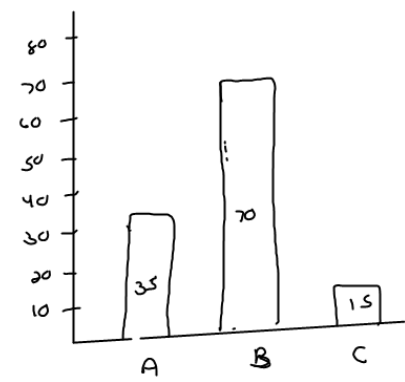


b) Pie Chart

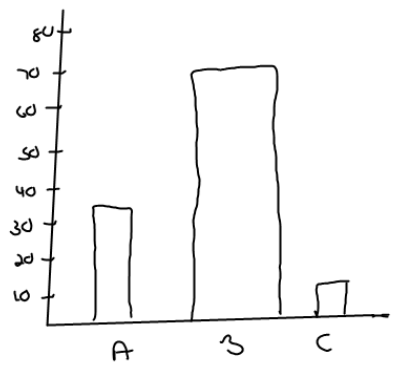
No. Each bar is a different age group not part of a whole.

* Remember
Label, Label, Label

Some charts are misleading



1) Start the graph above 0



2) change the size of the bars

Marginal Distribution

the marginal distribution of a categorical variable is the distribution of the values of the variable among all individuals in the table

Conditional Distributions

describes the distribution among individuals who have a specific characteristic

ex

Superpower	Female	Male	Total	needed for a marginal distribution
Invisibility	17	13	30	
Superstrength	3	17	20	
Telepathy	39	5	44	
Fly	36	18	54	
Freeze time	20	32	52	
	115	85	200	needed for conditional

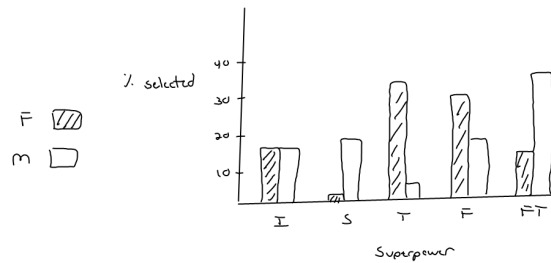
a) Find marginal distribution in percents

I	30/200	15%	
S	20/200	10%	Bar Graph or a Pie Chart would both be appropriate
T	44/200	22%	
F	54/200	27%	
FT	52/200	26%	

b) Calculate conditional distributions of the males and females

	Female	Male
I	17/115 = 15%	13/85 = 15%
S	3/115 = 3%	17/85 = 20%
T	39/115 = 34%	5/85 = 6%
F	36/115 = 31%	18/85 = 21%
FT	20/115 = 17%	32/85 = 38%

Side by side bar graph



Organization of a Stats Problem

- 1) State
- 2) Plan
- 3) Do
- 4) Conclude