

L3: Jan. 23.

## Housekeeping.

- Writing assignment due on Canvas at 11:59 p.m. tonight
- Homework due Wednesday in class — see Canvas
- Quiz 1 on Wednesday (on everything so far)
- Review session: 5-6 p.m. Tuesday in B205  
(e-mail Prof. Kiley if you want  
review ; cannot make session)

## Special event!!

Free movie Hidden Figures at the N. Adams  
Movieplex — Tuesday showing either  
6:40 or 9: p.m. — line-up begins  
at 6 p.m. ; must bring student ID

EXTRA CREDIT OPPORTUNITY — to be explained on Canvas.

## Last time/week:

- Introd. to statistics
- Data visualization

} QUESTIONS?

Today : • Qualitative data  
• Sampling

Qualitative data

For example: comparing the # of part-time students to the # of full-time students at several colleges (see p. 15 of textbook)

De Anza Coll.

|    | #      | %    |
|----|--------|------|
| FT | 9,200  | 40.9 |
| PT | 13,296 | 59.1 |

Foothill Coll.

|    | #      | %    |
|----|--------|------|
| FT | 4,059  | 28.6 |
| PT | 10,124 | 71.4 |

MCLA (2014/15)

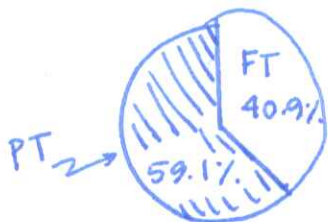
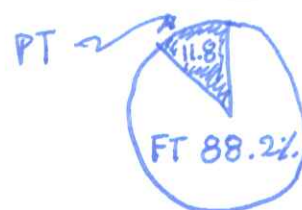
|    | #     | %    |
|----|-------|------|
| FT | 1,378 | 88.2 |
| PT | 184   | 11.8 |

% is important when comparing data sets of diff. size !!

Tables are good, but (as we saw Friday) graphs are sometimes better/clearer...

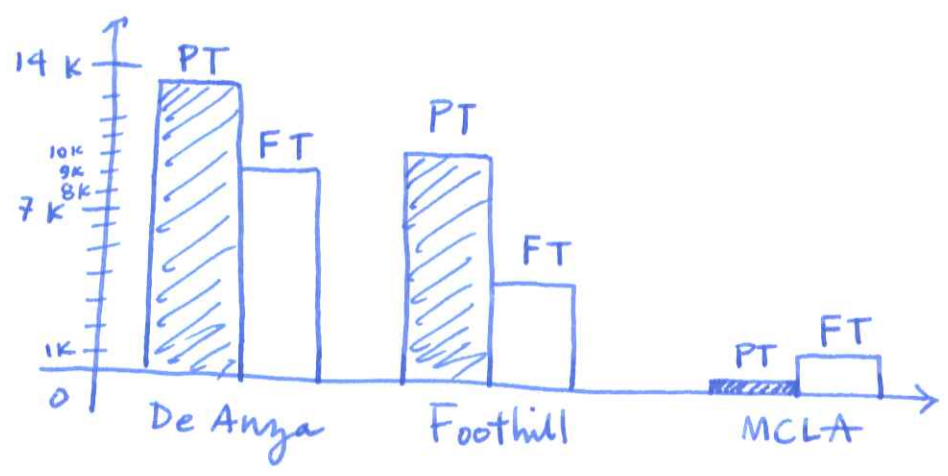
- Pie chart: for data whose categories don't overlap (e.g., you cannot be both a FT and a PT student). When this happens (and when everyone is categorizable), the sums of the percentages are 100%. ~~etc.~~

Wedges are proportional in area to the percentage of the whole their category represents:

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Qualitative data graphs, ct'd.

- Bar graphs:
  - length of bar corresponds to value or to % of total
  - horizontal or vertical



- Pareto chart:
  - Bar graph, but bars sorted by height.

More interesting example: ethnicity bar + Pareto charts, p. 18 of OpenStax.

Qualitative data graphs.

MCLA by home state.

| State         | Fall 2016 | % Fall 2016 |
|---------------|-----------|-------------|
| Mass.         | 1,072     |             |
| NY            | 243       |             |
| VT            | 54        |             |
| New Engl.     | 42        |             |
| Int'l / other | 33        |             |
| TOTAL         | 1,444     |             |

- In groups:
- Draw a pie chart
  - bar chart
  - Pareto graph