

IMD0105 - Special Issues in Information Technology VI

Introduction to Statistics II

Natal-RN
April 2017



Agenda

- Central tendency measurements
 - Mean, median and mode
- Practical
 - Google spreadsheets
 - Python & Facebook API

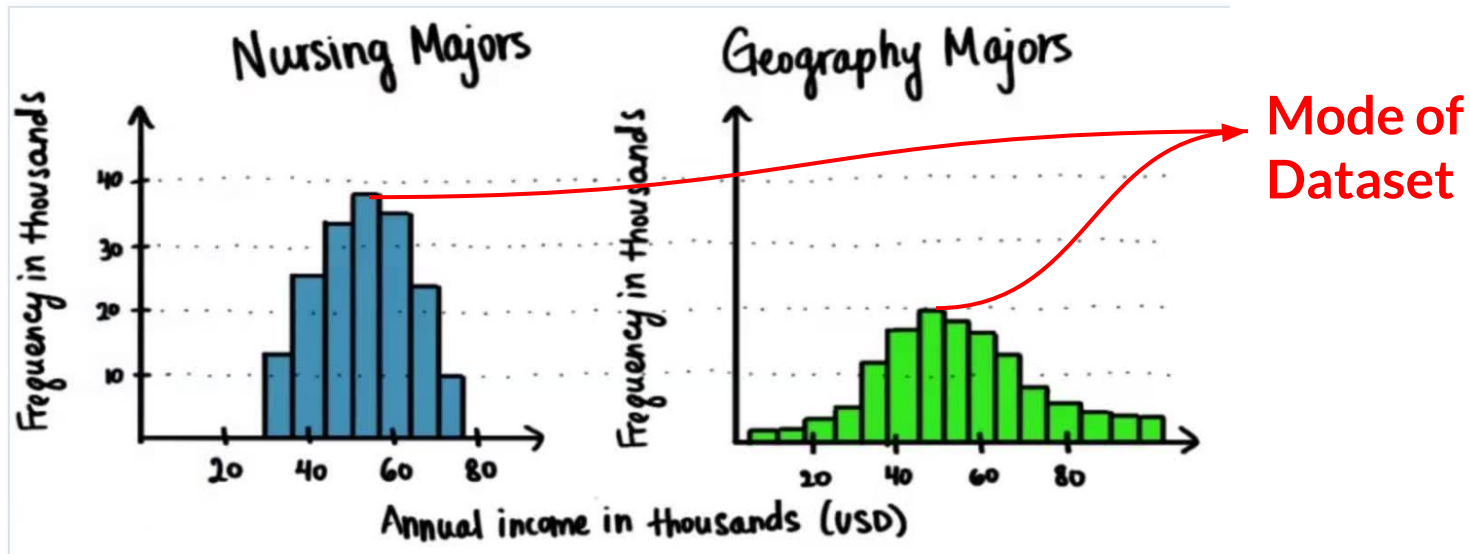
Previously on last class (...)

Central Tendency

Mode vs Mean vs Median

Central Tendency

Mode



Approximately what income do most nursing and geography majors make?

Quiz: mode of dataset

Socrative
Room: 4PSX6ZWHG

2	5	5	9	8	3
---	---	---	---	---	---

What is the mode?

Properties of Mode

True/False

All scores in the dataset affect the mode

If we take a lot of samples from the same population, the mode will be the same in each sample

There is an equation for the mode

Find the Mean

Nursing	Geography
\$58.350	\$48.670
\$63.120	\$57.320
\$44.640	\$38.150
\$56.389	\$41.290
\$72.250	\$53.160

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$$

Properties of Mean

- ☐ All scores in the distribution affect the mean.
- ☐ The mean can be described with a formula.
- ☐ Many samples from the same population will have similar means.
- ☐ The mean of a sample can be used to make inferences about the population it came from.
- ☐ The mean will not change if an extreme value becomes part of dataset.

Mean with Outlier

Nursing	Geography
\$58.350	\$48.670
\$63.120	\$57.320
\$44.640	\$38.150
\$56.389	\$41.290
\$72.250	\$53.160

Average starting salary of geography students from UNC was well over \$100.000 in the mid-1980s!

What happened?



\$500.000

Find the Median

Nursing	Geography
\$58.350	\$48.670
\$63.120	\$57.320
\$44.640	\$38.150
\$56.389	\$41.290
\$72.250	\$53.160

1. Putting the dataset in ascending order
2. Eliminate the extremes until only one element remains.

Median with Outlier

Nursing	Geography
\$58.350	\$48.670
\$63.120	\$57.320
\$44.640	\$38.150
\$56.389	\$41.290
\$72.250	\$53.160



\$500.000

Quiz: Facebook Friends

How many Facebook friends do you have?

<https://goo.gl/AB1a4X>



Google
Sheets

Quiz: Facebook Friends

How many Facebook friends do you have?

<https://goo.gl/7A97n0>

