STAT 2507

Tutorial 2

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Section A3: Mondays 4:35-5:25

Section C2: Tuesdays 2:35-3:25

Section A5: Thursdays 12:35-1:25

Section A8: Thursdays 1:35-2:25

Math Tutorial Centre

- FREE Online help from TAs, available Friday Sept. 25th - Friday Dec. 11th
- Search on Google for “Carleton Math Tutorial Centre” for schedule
- Look for anyone whose name has a “P” or “S” beside it (Probability & Statistics)

Today’s Tutorial

- Briefly: 3 common mistakes from Assignment 1
- Using SPSS to simulate 1000 coin flips
- Mid-semester feedback: “Start, Stop, Continue”

Types of Variables

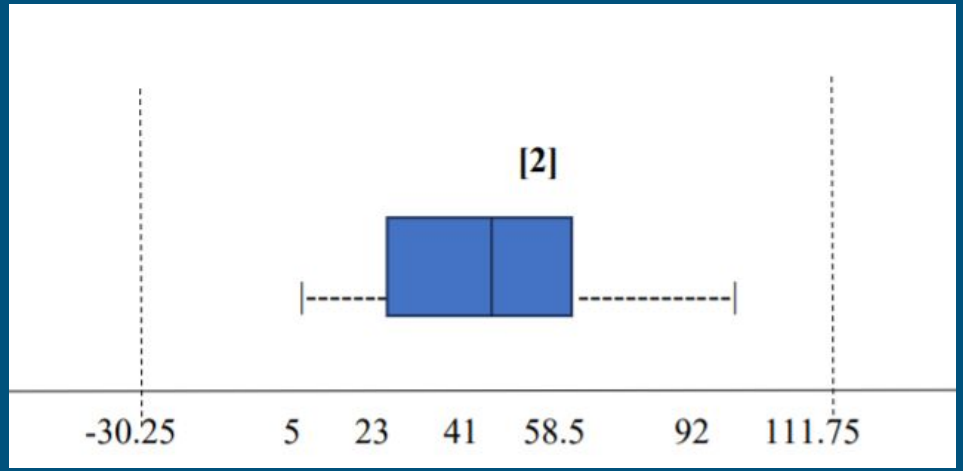
- A variable can either be qualitative, or quantitative.
- If a variable is quantitative, it can be further classified as either continuous or discrete.
- A qualitative variable **cannot** be discrete or continuous -- these words only apply to quantitative variables!

Types of Variables

- 1d) The weekly average occupancy rate (occupied rooms/total rooms) at a chain hotel in Southern Ontario
  - Quantitative, continuous
- 1g) Level of customer satisfaction with a service on a scale of 0 to 10
  - Qualitative

Mean or median?

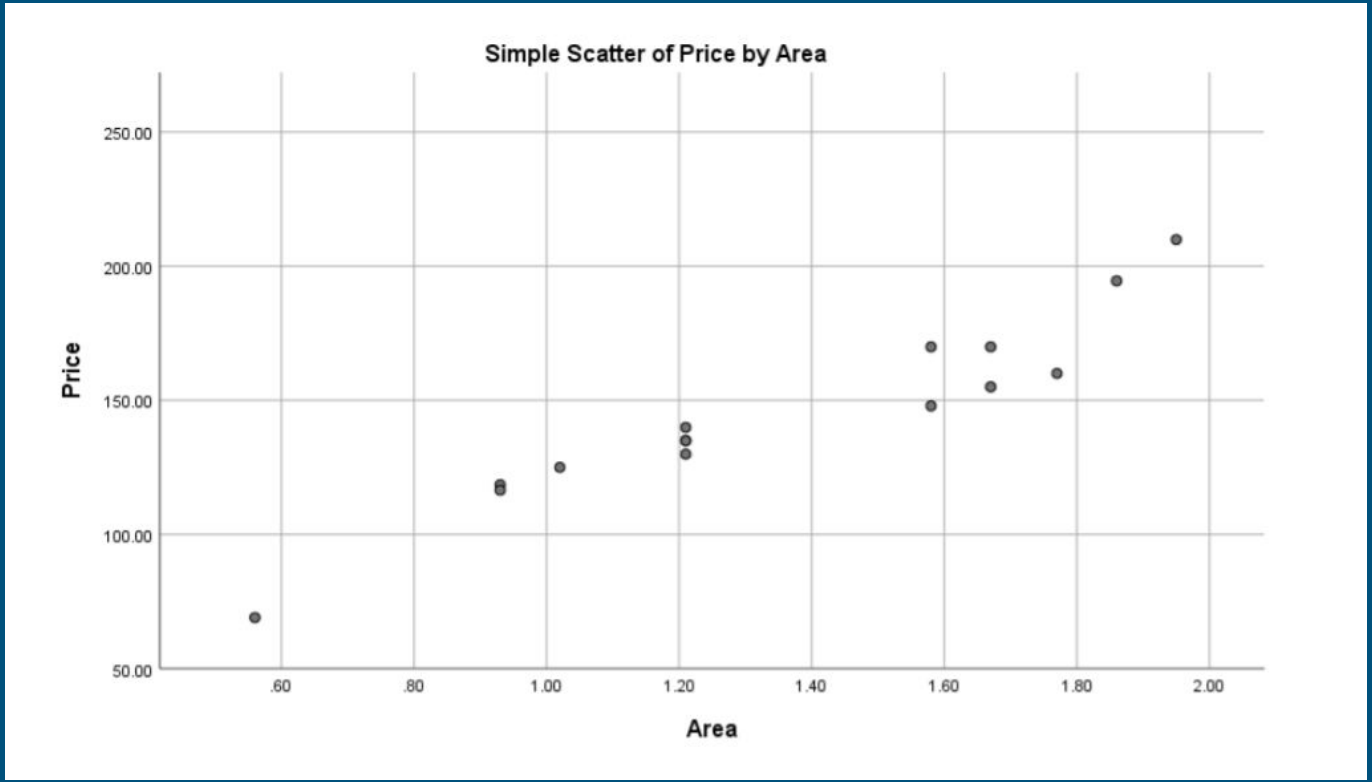
- Median is preferable if you have outliers
- For a symmetric, bell-shaped distribution, the values of the mean and median will be extremely similar
- Does this have outliers? Is it symmetric + bell-shaped?



Predicting the independent variable

- **Price** = dependent variable (Y)
- **Living Area** = independent variable (X)
- Can you predict living area from price?

Predicting the independent variable



Make sure you follow the tutorials!

- As a general statement: use the instructions from the tutorials to guide you for the SPSS portions of the assignments

Review: Bernoulli Random Variables

- A Bernoulli Random Variable represents a “trial” that has two outcomes: a success or a failure
  - Probability of success: p
  - Probability of failure: $1 - p$
- Example 1: If you flip a coin and define a tail as a “success”,
  - $p = 0.5$
  - $1 - p = 1 - 0.5 = 0.5$
- Example 2: If you roll a die and define a 1 or 4 as a “success”,
  - $p = 1/3 = 0.3333$
  - $1 - p = 1 - 1/3 = 2/3 = 0.6666$
- Today, we will flip 1000 coins and see how many times we get a tail.

Stop, Start, Continue

- We are now halfway through the tutorials for this course
- Please use this link to tell me:
  - What's 1 thing I should **STOP** doing during tutorials?
  - What's 1 thing I should **START** doing during tutorials?
  - What's 1 thing I should **CONTINUE** doing during tutorials?
- https://forms.gle/tgEYesa2be51Knmm8