



*“But where shall I begin?”
asked Alice. “Begin at the
beginning,” the King said
gravely, “and go on till you
come to the end: then stop.”*

*—Lewis Carroll,
Alice’s Adventures
in Wonderland*

What is statistics?

Statistics is a way of reasoning, along with a collection of tools and methods, designed to help us understand the world.





and



WHO: Students
 WHAT: Heights and wingspans
 WHEN: November 10, 2015
 WHERE: Our Stats Classroom
 WHY: To discover the association between height and wingspan
 HOW: By using a very long ruler

Why should I ask these questions?



Because data vary. (population varies, time varies etc so results vary.)

We don't see everything. Even what we do see and measure, we measure imperfectly.

Who is collecting your data?

&

What are they collecting about you and to what end?

Suggestions everywhere!!



Identify the 5W's and the H

Coffee stations in offices often just ask users to leave money in a tray to pay for their coffee, but many people cheat. Researchers at Newcastle University alternately taped two posters over the coffee station. During one week, it was a picture of flowers; during the other, it was a pair of staring eyes. They found that the average contribution was significantly higher when the eyes poster was up than when the flowers were there. Apparently, the mere feeling of being watched—even by eyes that were not real—was enough to encourage people to behave more honestly. [NY Times, Dec. 10, 2006]



Identify the 5W's and the H

Are physically fit people less likely to die of cancer? An article in the May 2002 issue of *Medicine and Science in Sports and Exercise* reported results of a study that followed 25,892 men aged 30 to 87 for 10 years. The most physically fit men had a 55% lower risk of death from cancer than the least fit group.

A vertical stack of 20 horizontal lines for taking notes.

A Consumer Reports article on energy bars gave the brand name, flavor, price, number of calories, and grams of protein and fat.

Who: energy bars
What: brand name, flavor, price, calories, protein, fat
When: not specified
Where: not specified
How: not specified. Are data collected from the label? Are independent tests performed?
Why: information for potential consumers
Categorical variables: brand name, flavor
Quantitative variables: price (US\$), number of calories (calories), protein (grams), fat(grams)

A report on the Boston Marathon listed each runner's gender, country, age, and time.

Who: Boston Marathon runners
What: gender, country, age, time
When: not specified
Where: Boston
How: not specified. Presumably, the data were collected from registration information.
Why: race result reporting
Categorical variables: gender, country
Quantitative variables: age (years), time (hours, minutes, seconds)

Assignment 1

Read Chapter 1. Explore the data collected, and make some observations about the class. What could you report to someone who asked you to describe your class? What did you find interesting (or perhaps surprising) about the class?
