



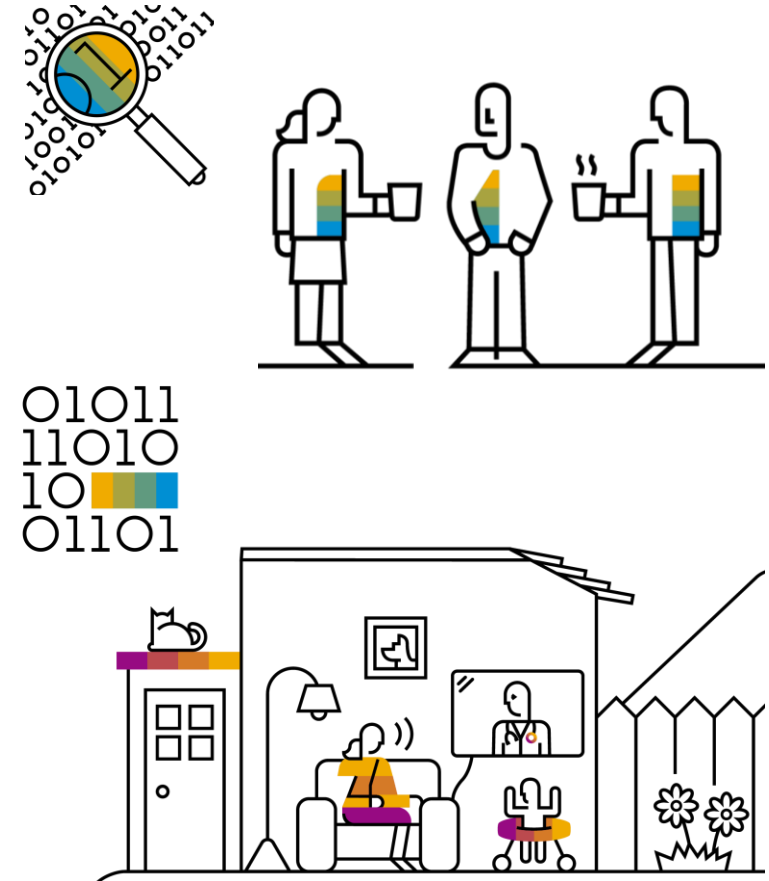
Week 1: Introduction to Statistics

## Unit 2: Numbers in Everyday Life

# Numbers in Everyday Life

## Introduction

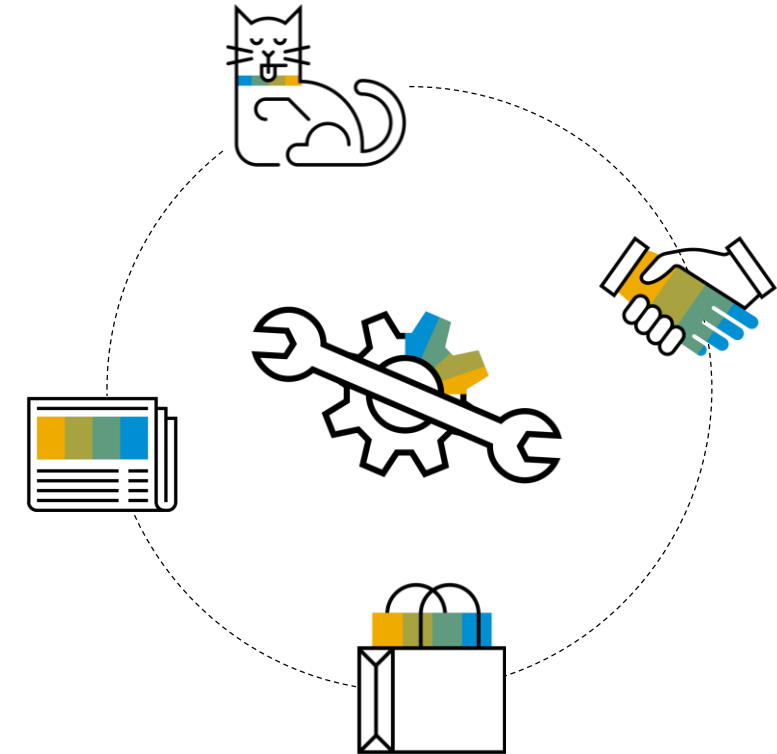
- In this unit, we'll look at everyday examples where we have to evaluate and make judgments using numbers and statistics.
- In many cases, we hardly think that we're doing statistics, but we are. There are countless examples from our everyday lives, but I've chosen 3 from the day I was building this unit.
- For each of the claims made, we'd like you to think about how you'd evaluate and test them yourself. After each one, we'll compare notes with a few things I thought about.



## Numbers in Everyday Life

### Statistics every day

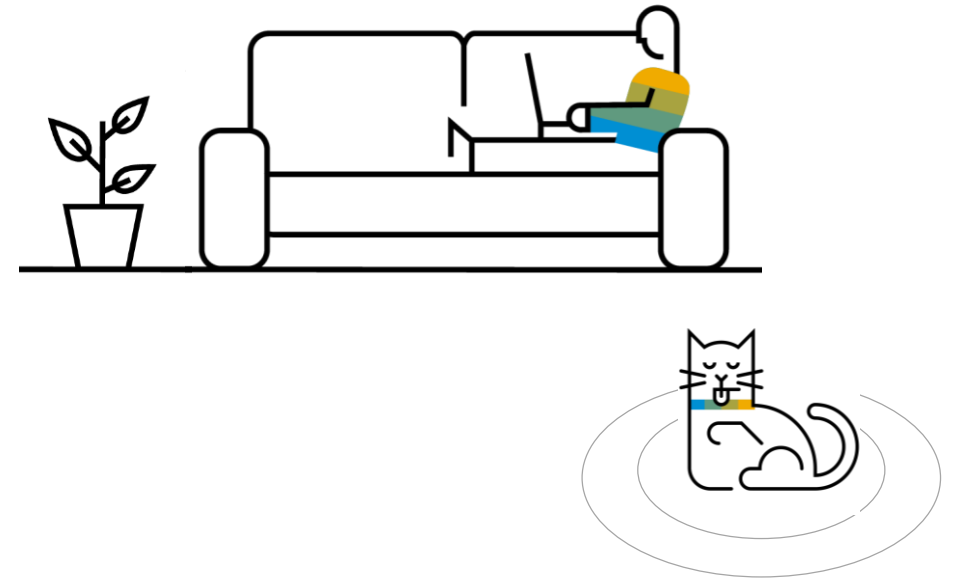
- Let's look at some statistical claim examples from my day ...
  - Advertising – “9 out of 10 cat owners say their cats prefer x brand of cat food”
  - Newspaper articles – “*“Bill Gates says poverty is decreasing. He couldn't be more wrong” (The Guardian – 29/01/2019)*
  - Shopping – Does it make sense to buy the BOGOF (Buy-One-Get-One-Free) offer?
- Let's test these one by one ...



## Numbers in Everyday Life

### Questioning the statistics

- What questions should you be raising about these claims?...
- Advertising – “9 out of 10 cat owners say their cats prefer x brand of cat food”
  - What sample size did they use?
  - How could they test that the cats preferred the cat food to other food?
  - Was the testing done against all top brands?
  - How could you tell that the cats didn't simply enjoy the food because it was new and different? Will they get bored?



## Numbers in Everyday Life

### Questioning the statistics

- What questions should you be raising about these claims?...
- Newspaper – *“Bill Gates says poverty is decreasing. He couldn’t be more wrong” (The Guardian – 29/01/19)*  
*Read the article first*
  - How are they defining poverty?
  - What is the baseline?
  - Do those making these claims have some reason to show bias?
  - What extra information do you need to have to legitimately make the above claims?



<https://www.theguardian.com/commentisfree/2019/jan/29/bill-gates-davos-global-poverty-infographic-neoliberal>

### Questioning the statistics

- Which questions should you be considering?...
- Shopping – *Which bananas should I buy? A bag for £1? Individual ones for 25p each? Large ones or small ones? Organic?*
  - How many bananas do you get in a bag?
  - Are the sizes the same as the individual ones?
  - Is the quality/ripeness comparable between them?
  - If there is a BOGOF (Buy-One-Get-One-Free) offer on the bagged bananas, would that make a difference?



## Numbers in Everyday Life

### Summary

- Numbers, summary statistics, and claims are part of our everyday lives and interactions.
- Those selling goods and services often use tactics which are not necessarily untruthful, but make it difficult to check claims.
- We are constantly battling to evaluate these claims to understand whether they are biased or truthful.



# Thank you.

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