

# WORKING WITH DATA

# A DATASET CONSISTS OF

Variables and observations

# A DATASET CONSISTS OF...

id	age	sex	height	weight
1	34	Male	188	90
2	23	Female	165	72
3	56	Female	170	68
4	23	Male	175	75
5	19	Female	176	73
6	22	Male	164	80
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- Variables
- Observations

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# WHAT IS DATA?

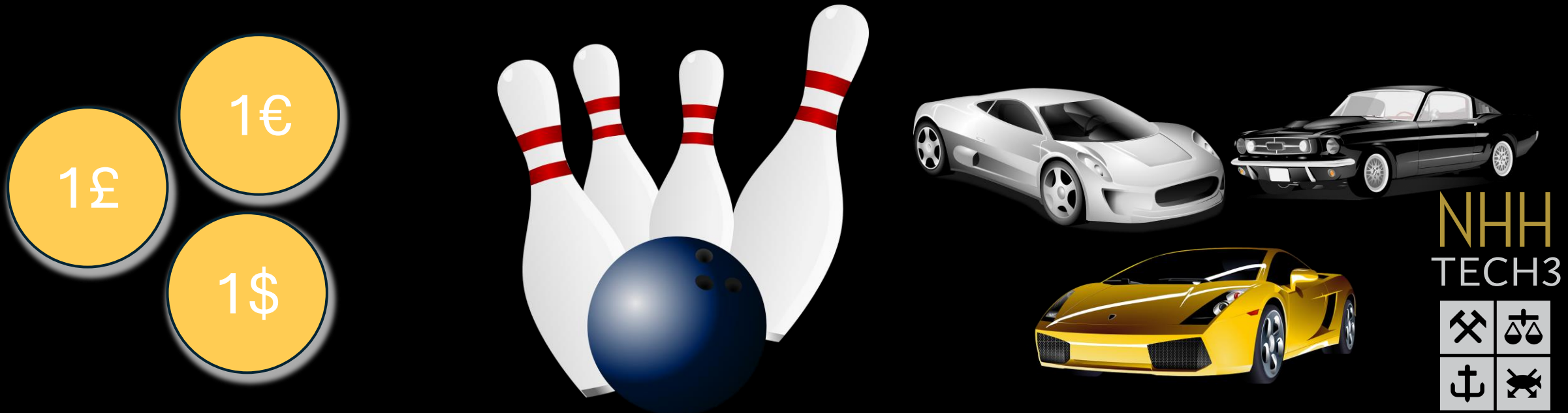
- Variables
  - Qualitative data
    - What's your favourite food?
  - Quantitative data
    - Binary (0/1, false/true, absent/present)
    - Integers (... , -2, -1, 0, 1, 2, ...)
      - How often do you eat pizza in a month?
    - Real numbers ( $-\infty$ ,  $\infty$ )



# DISCRETE VERSUS CONTINUOUS

A discrete measurement can take one of a finite set of particular values

- Qualitative values
- Numerical values



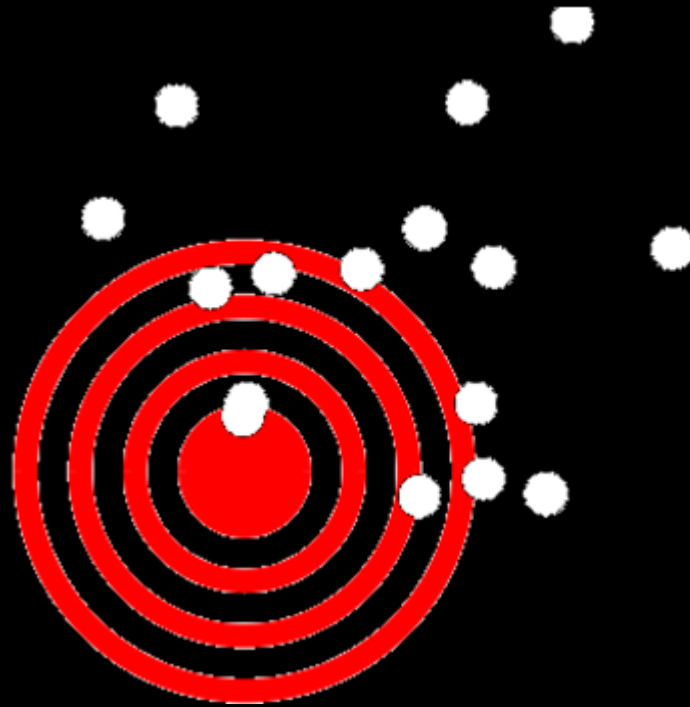
# DISCRETE VERSUS CONTINUOUS

Continuous measurements take real numbers

- Particular range of values
- Within range of measurement error



# WHAT MAKES A GOOD MEASUREMENT?



Unreliable and invalid

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Reliable, but invalid

# WHAT MAKES A GOOD MEASUREMENT?



Valid, but unreliable

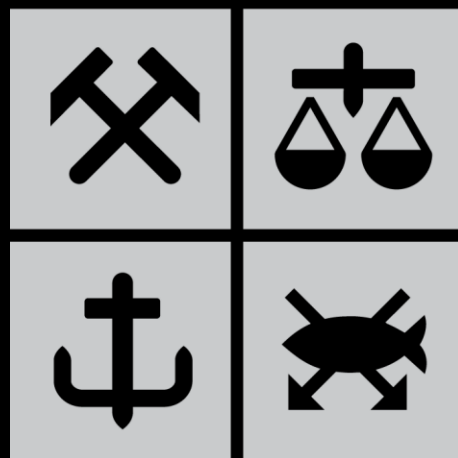
# WHAT MAKES A GOOD MEASUREMENT?



Reliable and valid

# NHH

## TECH3



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Geir Drage Berentsen