all students in
STATS 2141 A

This is "my" population
or, in other words,
"my" sample space
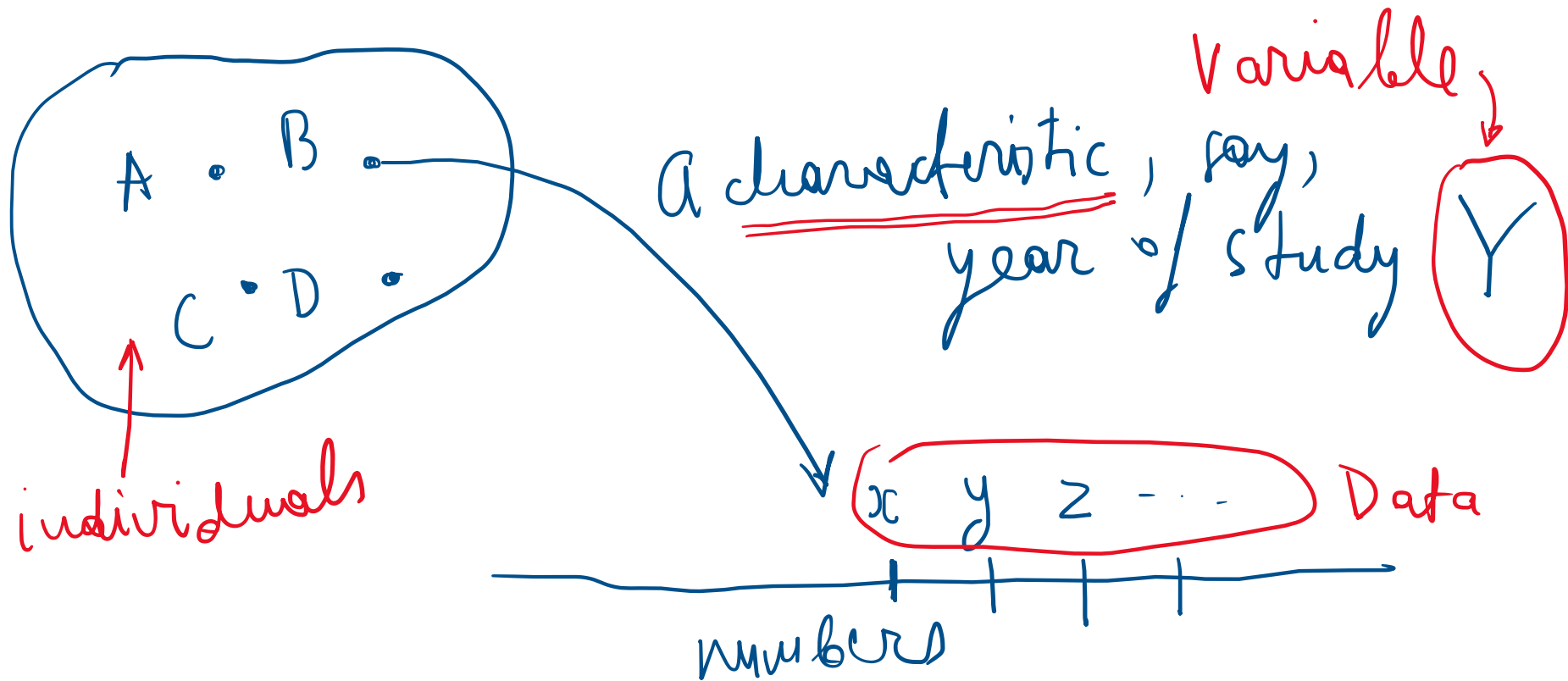
· Benny

· Anne

· Danny

· Cindy

A, B, C, D, ...

350 in total
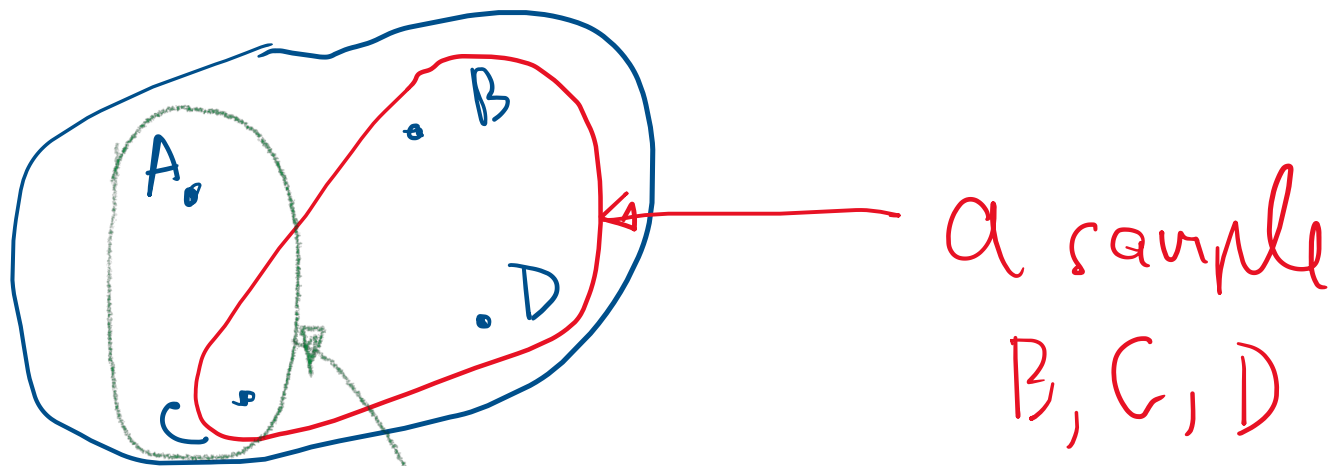
a sample
B, C, D

another sample
A, C

A characteristic, say, year of study — Variable Y

individuals

$A \cdot \quad \cdot B$
$C \cdot \quad \cdot D$

$x \quad y \quad z \quad \cdots$ — Data

numbers

$Y(\text{Anne}) = x, \text{ say } 2$
$Y(\text{Berry}) = y, \text{ say } 3$

$Y(\text{Cindy}) = z, \text{ say } 4$
$Y(\text{Danny}) = \text{ say } 3$

Y is a characteristic (say, year of study)
A, B, C, D..... individuals
    Where are data ???
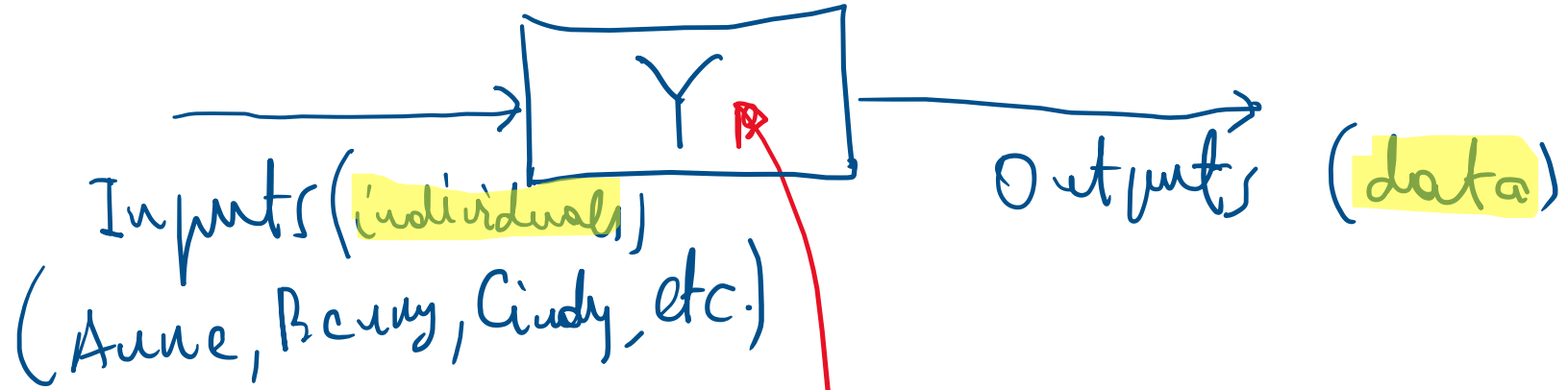
Here:

$Y(Anne) = 2$

$Y(Benny) = 3$

$Y(Cindy) = 4$

$Y(Danny) = 3$

variable.. individual data

Note that "variable" does not change.
What changes are individuals and thus data points.

Engineering Terminology

Y

Inputs (individuals)
(Anne, Benny, Cindy, etc.)

Outputs (data)

Variable
Transfer function
"Black box"