SAMPLING DISTRIBUTION

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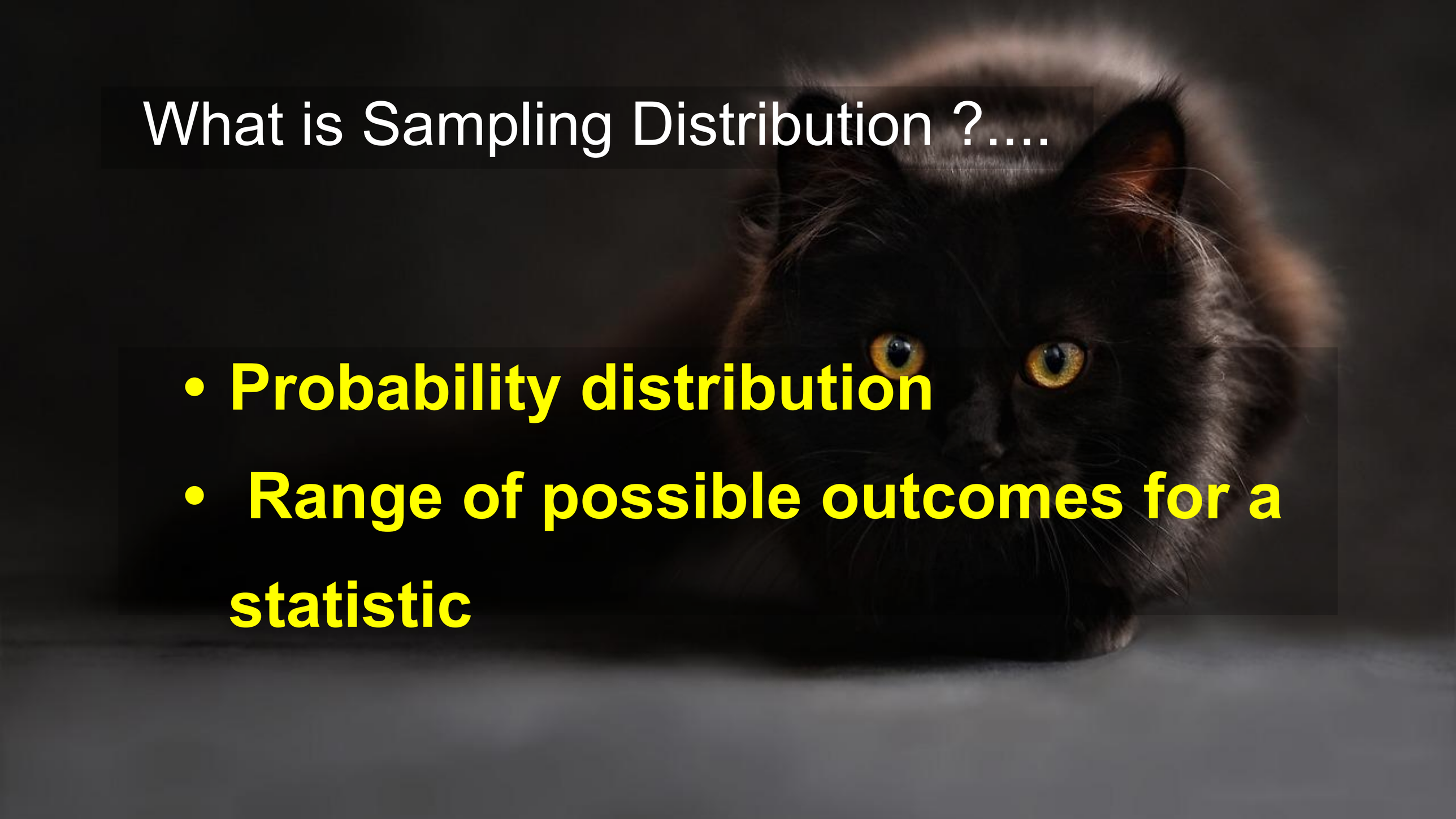
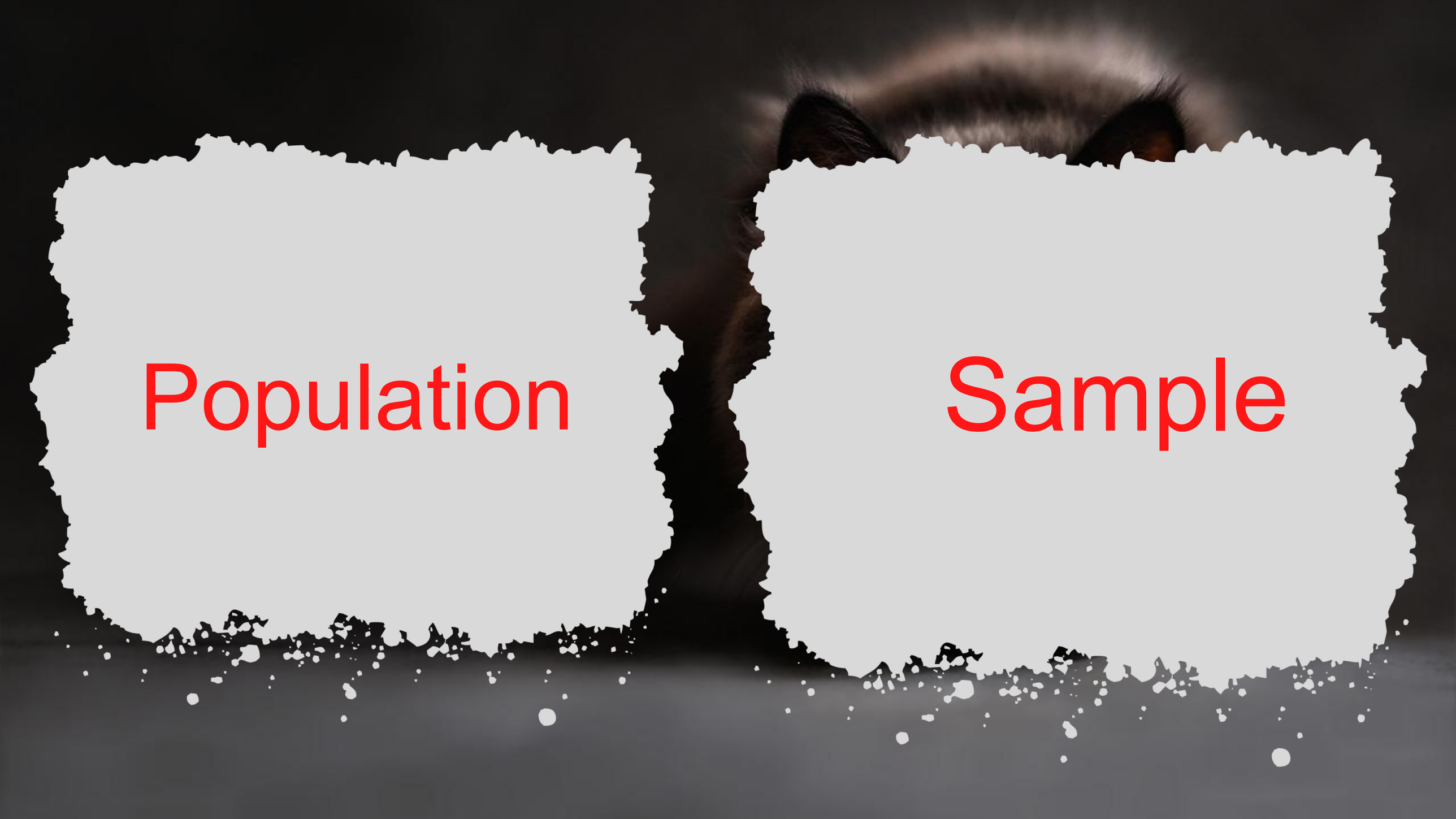
What is Sampling Distribution ?....



- **Probability distribution**
- **Range of possible outcomes for a statistic**


Population
Sample

Population

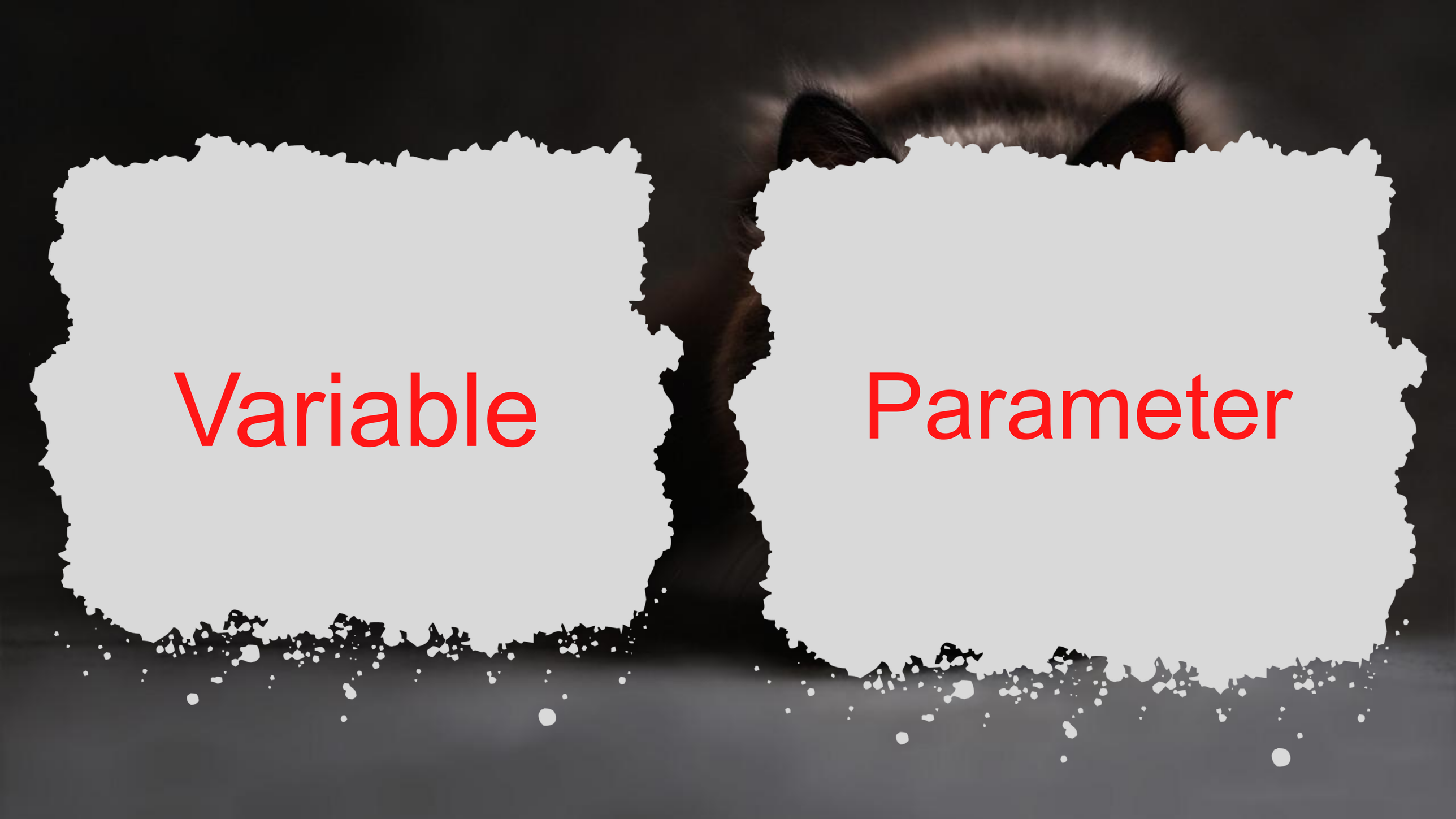
- **Elements**
- **Individuals**
- **Items**
- **Objectives**

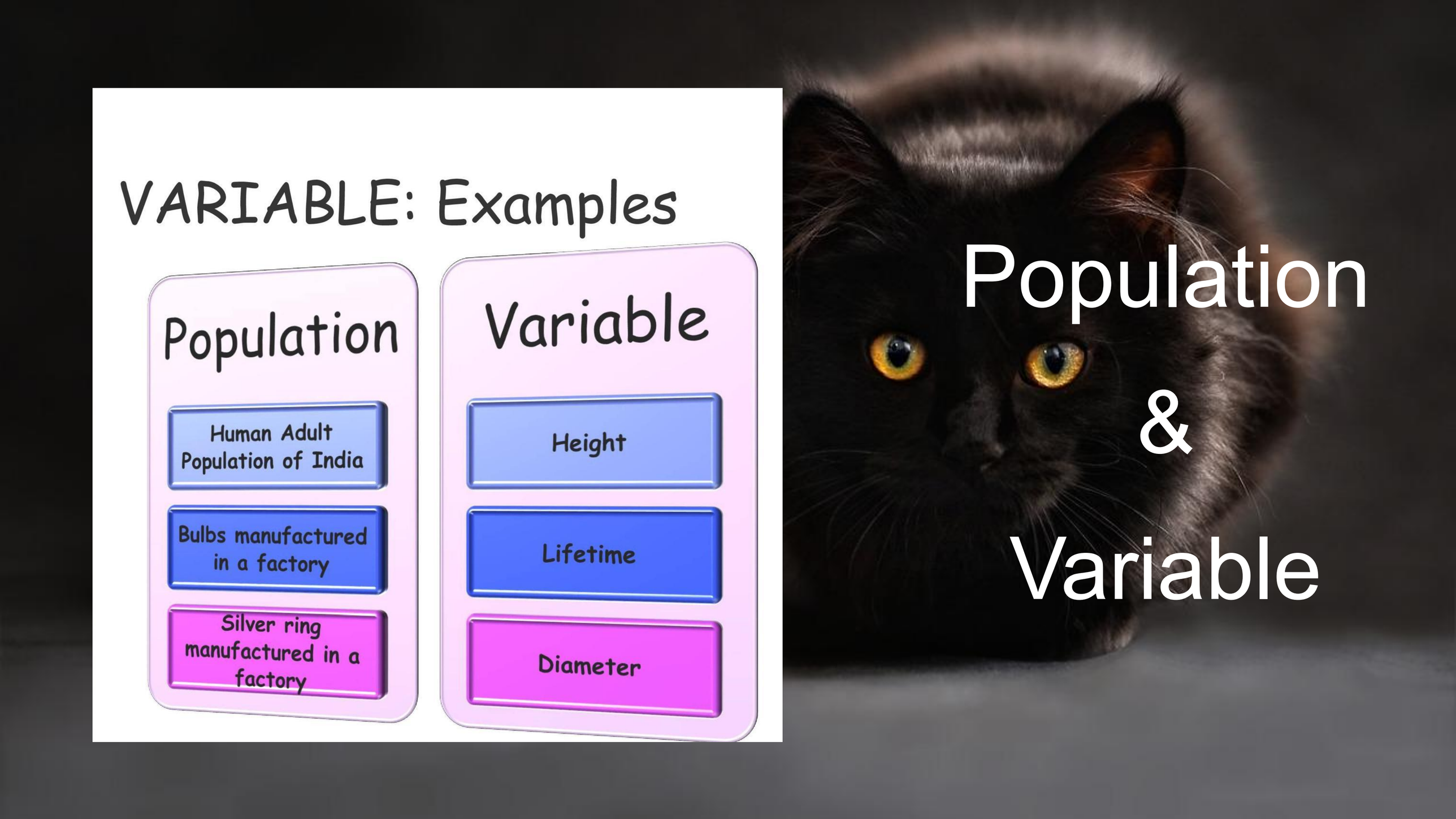
POPULATION : Examples

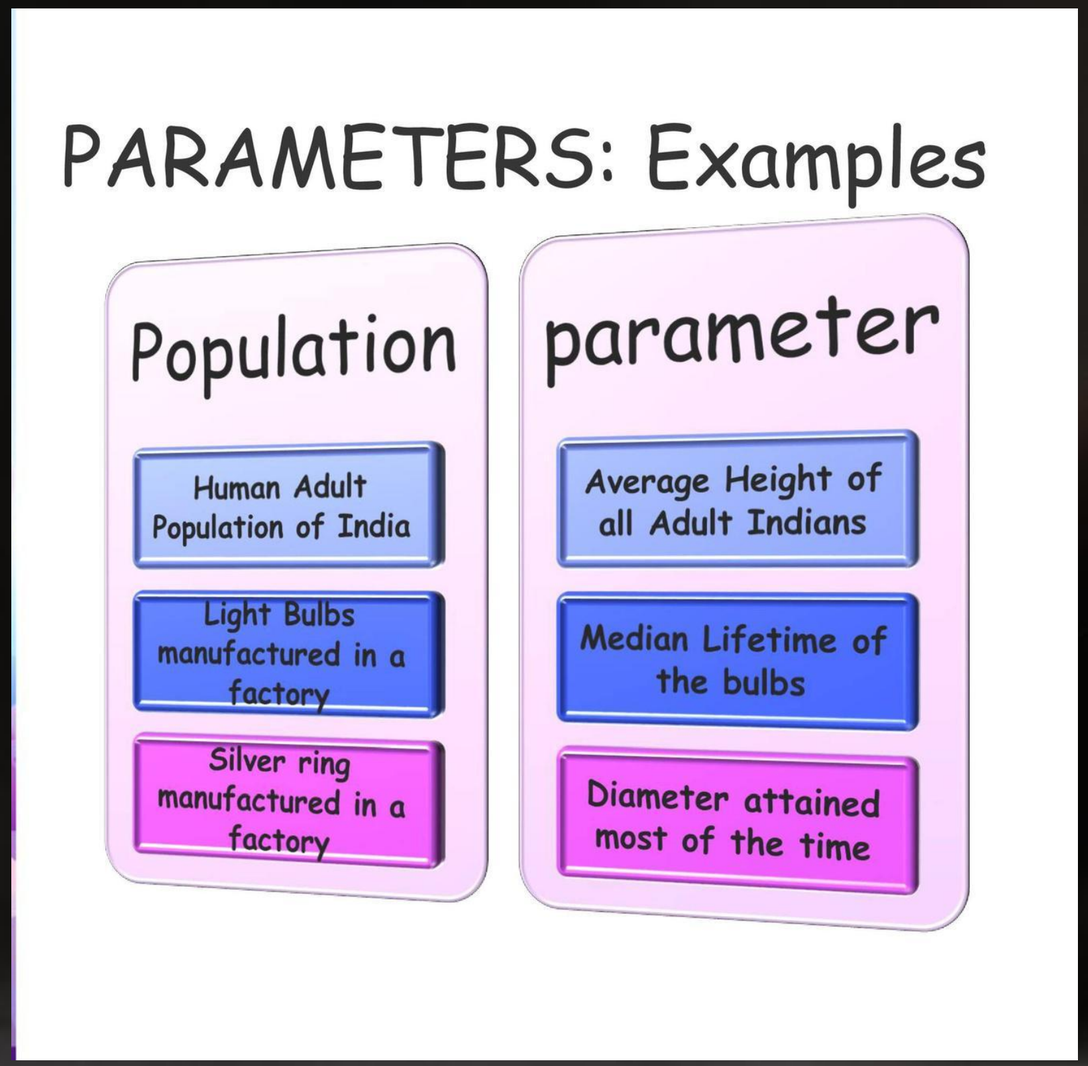
population of ELEPHANT


Population of LIONS


Population of light bulbs

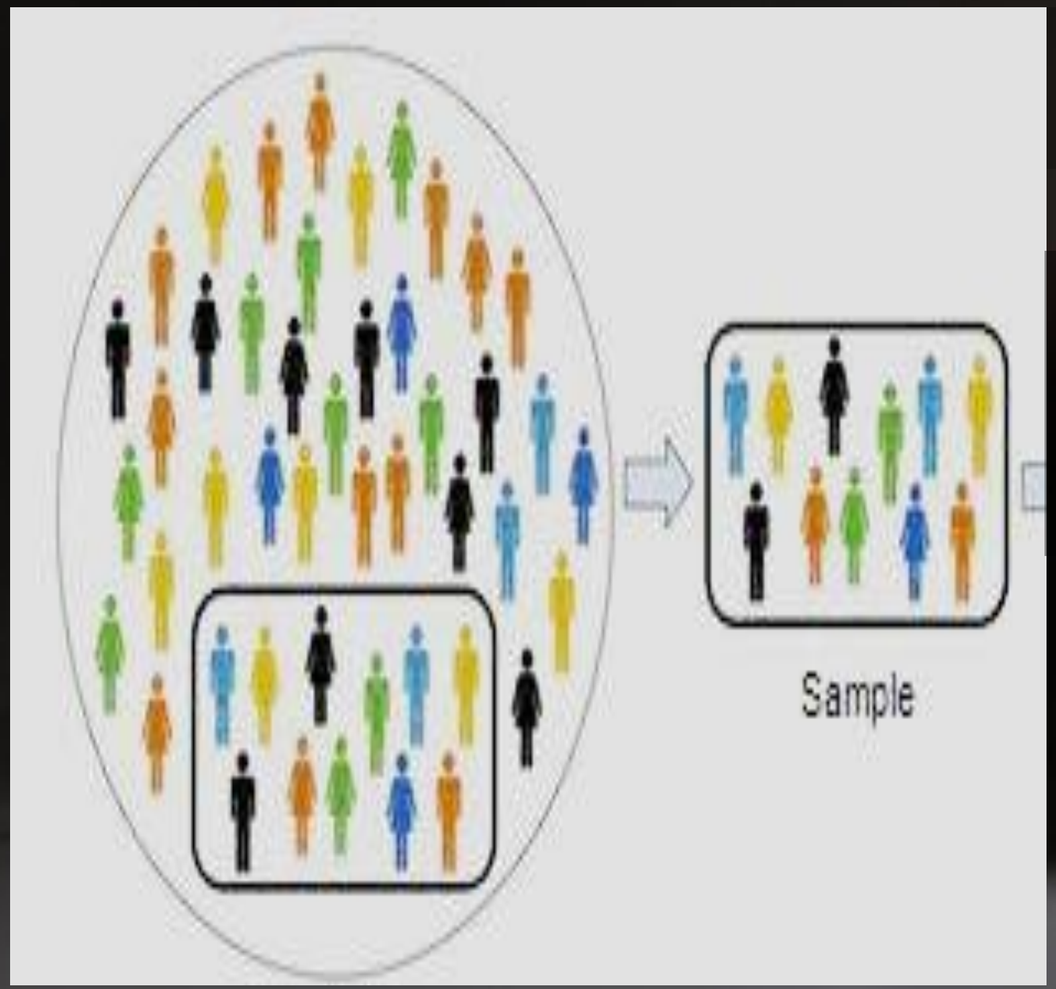

Variable
Parameter


VARIABLE: Examples
Population
Human Adult Population of India
Bulbs manufactured in a factory
Silver ring manufactured in a factory
Variable
Height
Lifetime
Diameter
Population
&
Variable



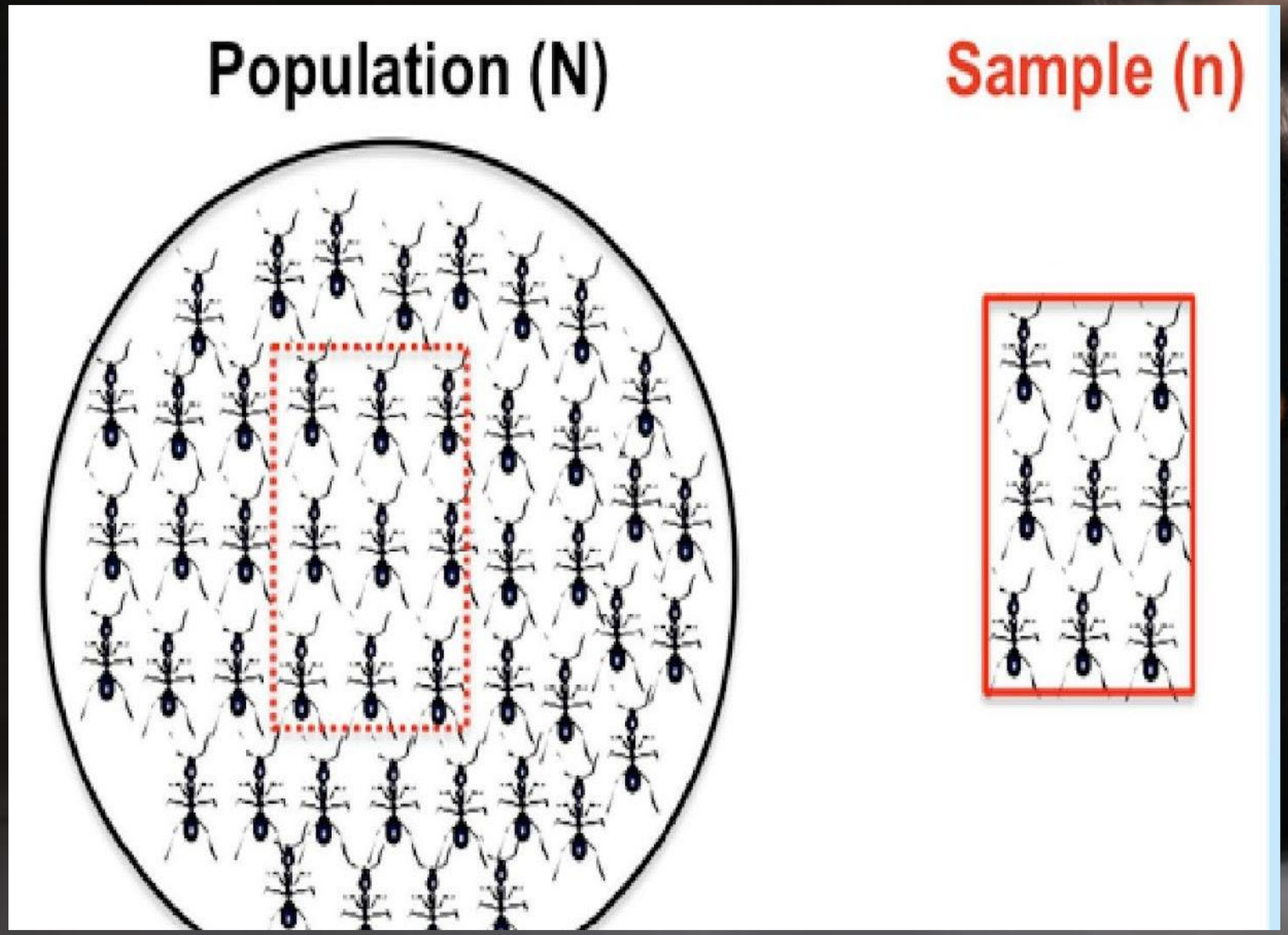
Population & Parameter

Sample

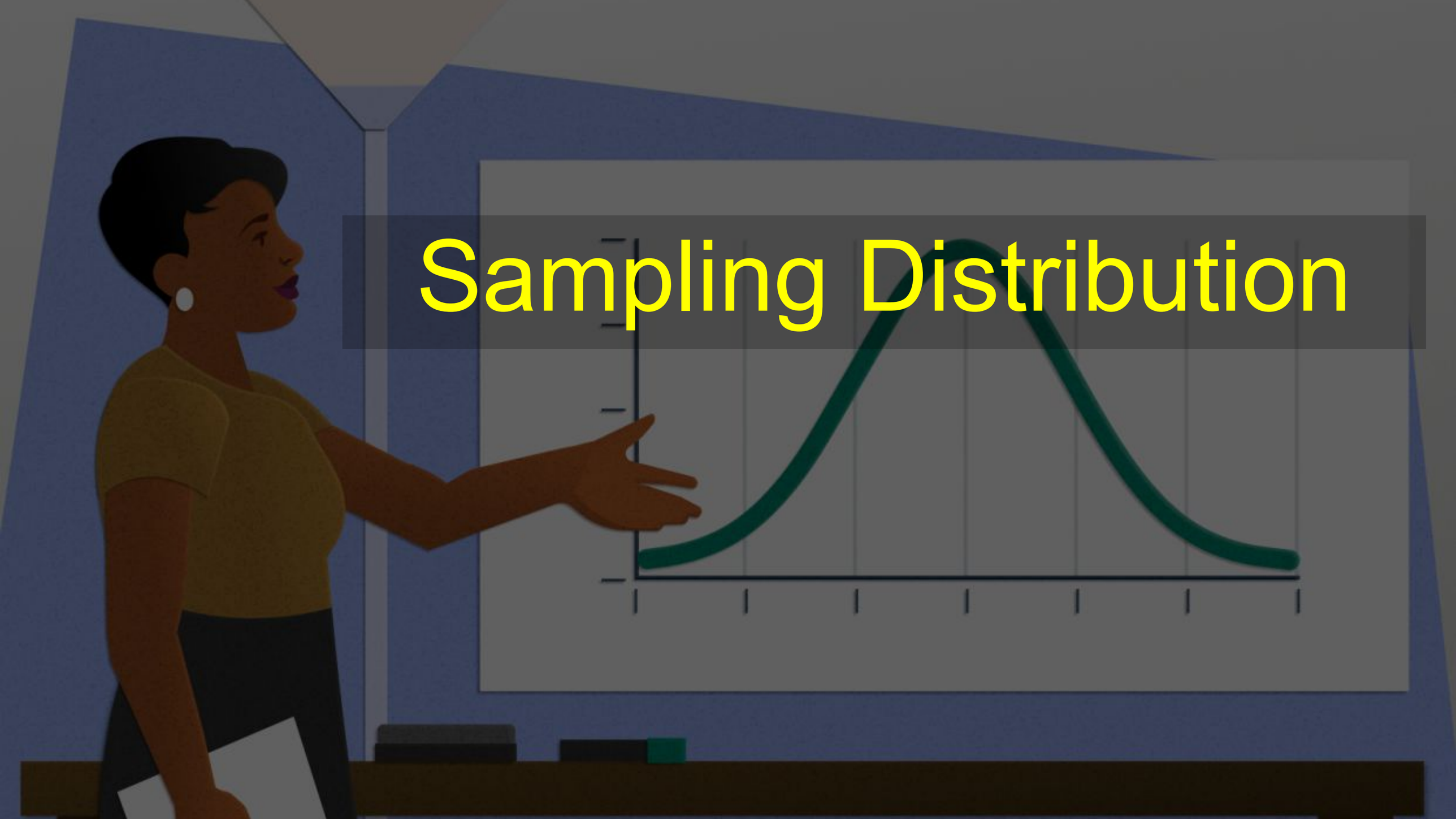


- Subset of population
- It contains the characteristics of a population


But how to get a representative sample?
There must be some objective method of choosing a sample


Population (N)
Sample (n)

Sampling Distribution

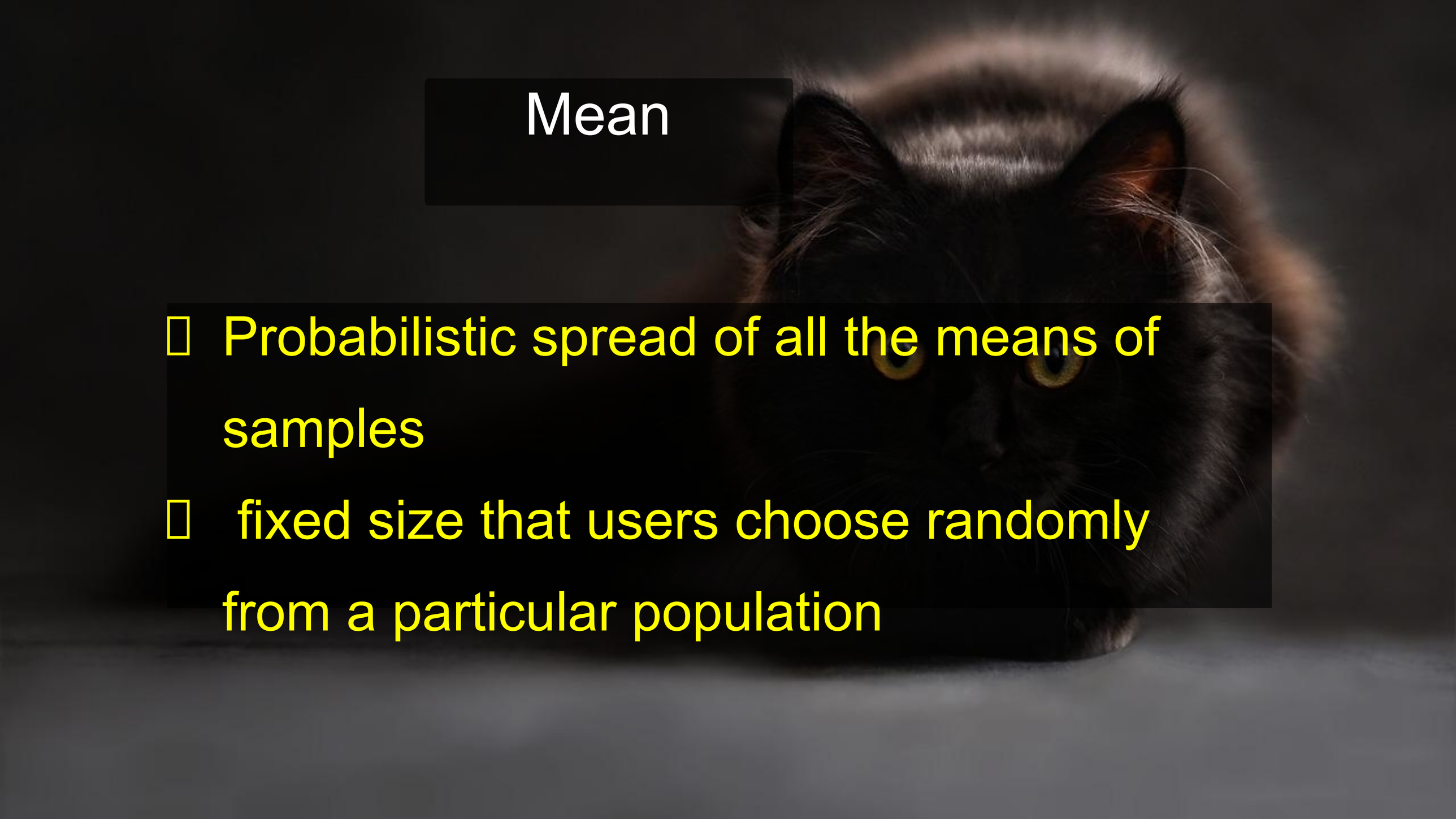


Types of Sampling Distribution

Mean

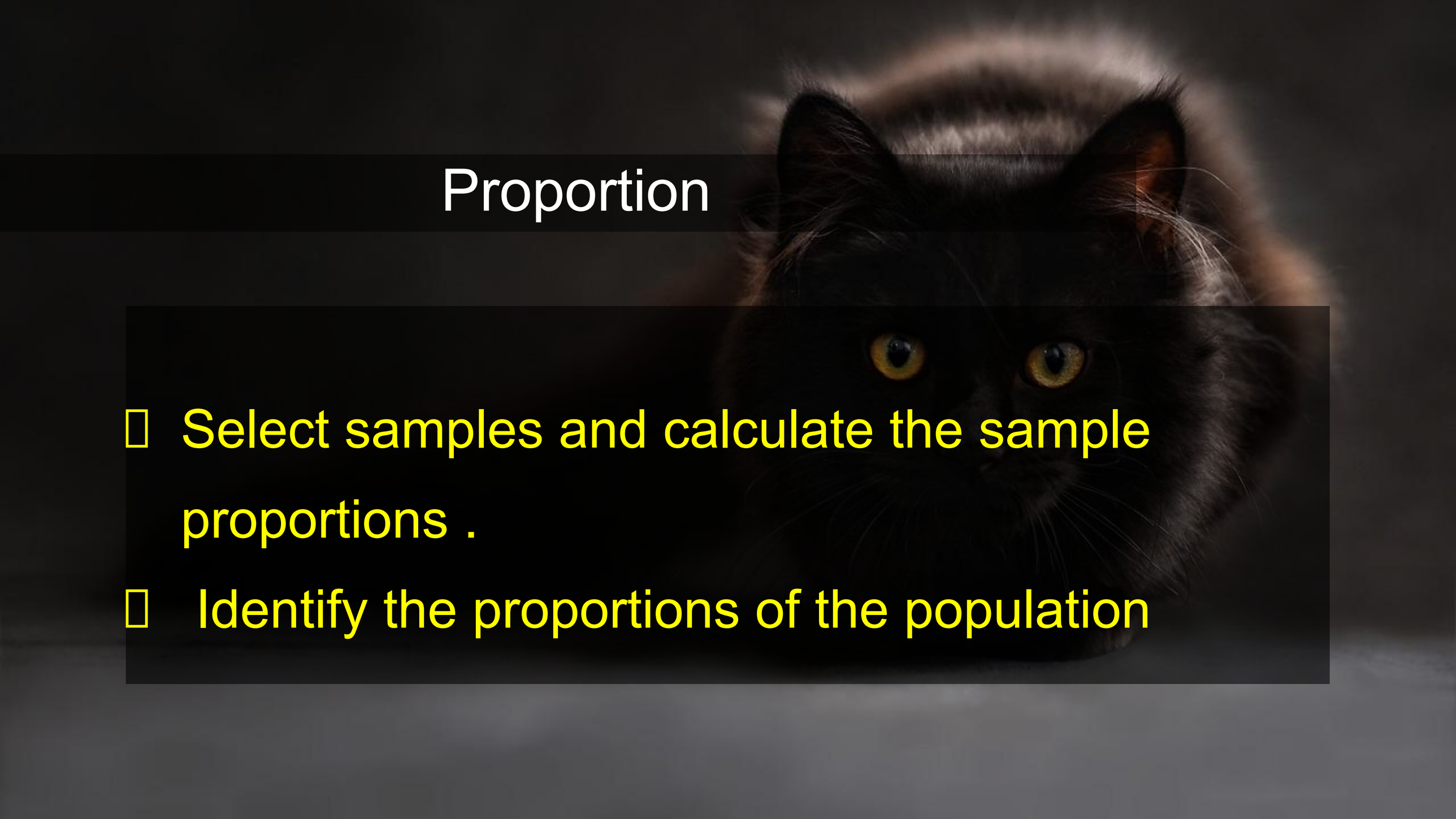
Proportion

T- distribution



Mean

- Probabilistic spread of all the means of samples
- fixed size that users choose randomly from a particular population



Proportion

- Select samples and calculate the sample proportions .
- Identify the proportions of the population

T- distribution

- **Probability distribution**
- **Symmetric & bell shaped**
- **Population standard deviation is unknown**

Central Limit Theorem

Central Limit Theorem

- Relationship between sample means & populations
- Population is normally distributed
- Normal population depends on the sample size

or standard error decreases


Thank you