



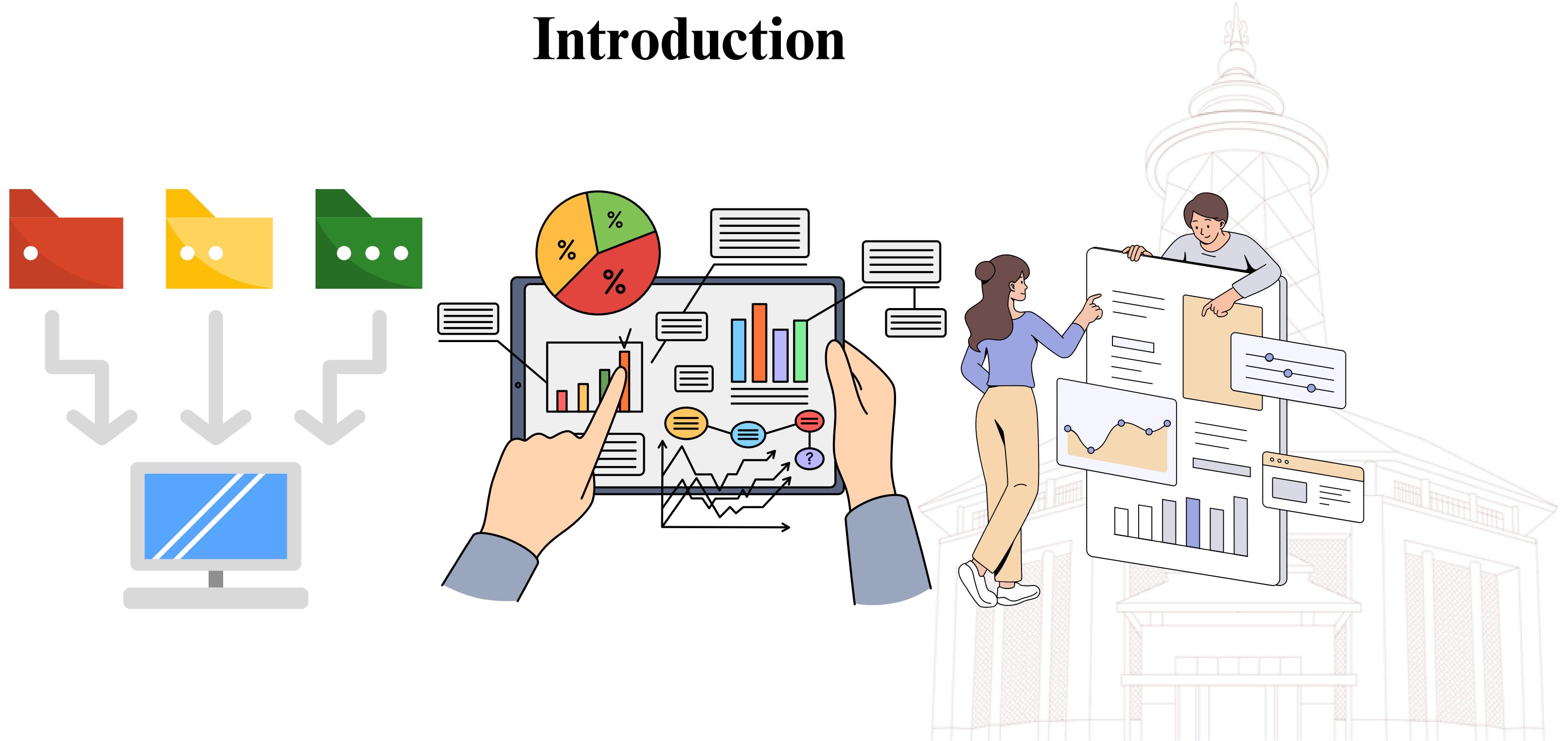
# Social Statistics

By : Ferdian Bangkit Wijaya, S.Stat, M.Si



# #1 Meeting

## Introduction





# Lecturer - Ilmu Komunikasi



**Ferdian Bangkit Wijaya, S.Stat, M.Si**

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**Statistics - Faculty of Engineering (floor 2nd)**

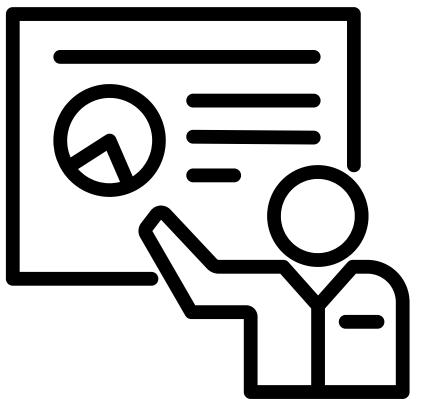




# #1 Meeting

## Introduction

## Weight of grades



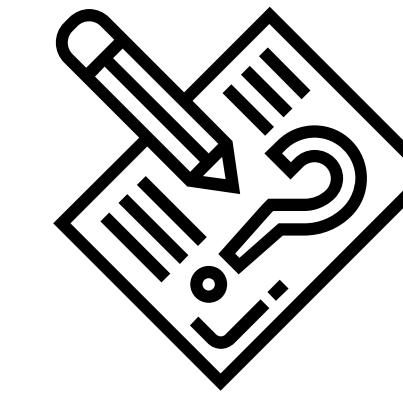
Project  
Presentation

30%



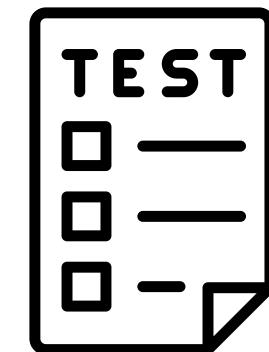
Class  
Observation

20%



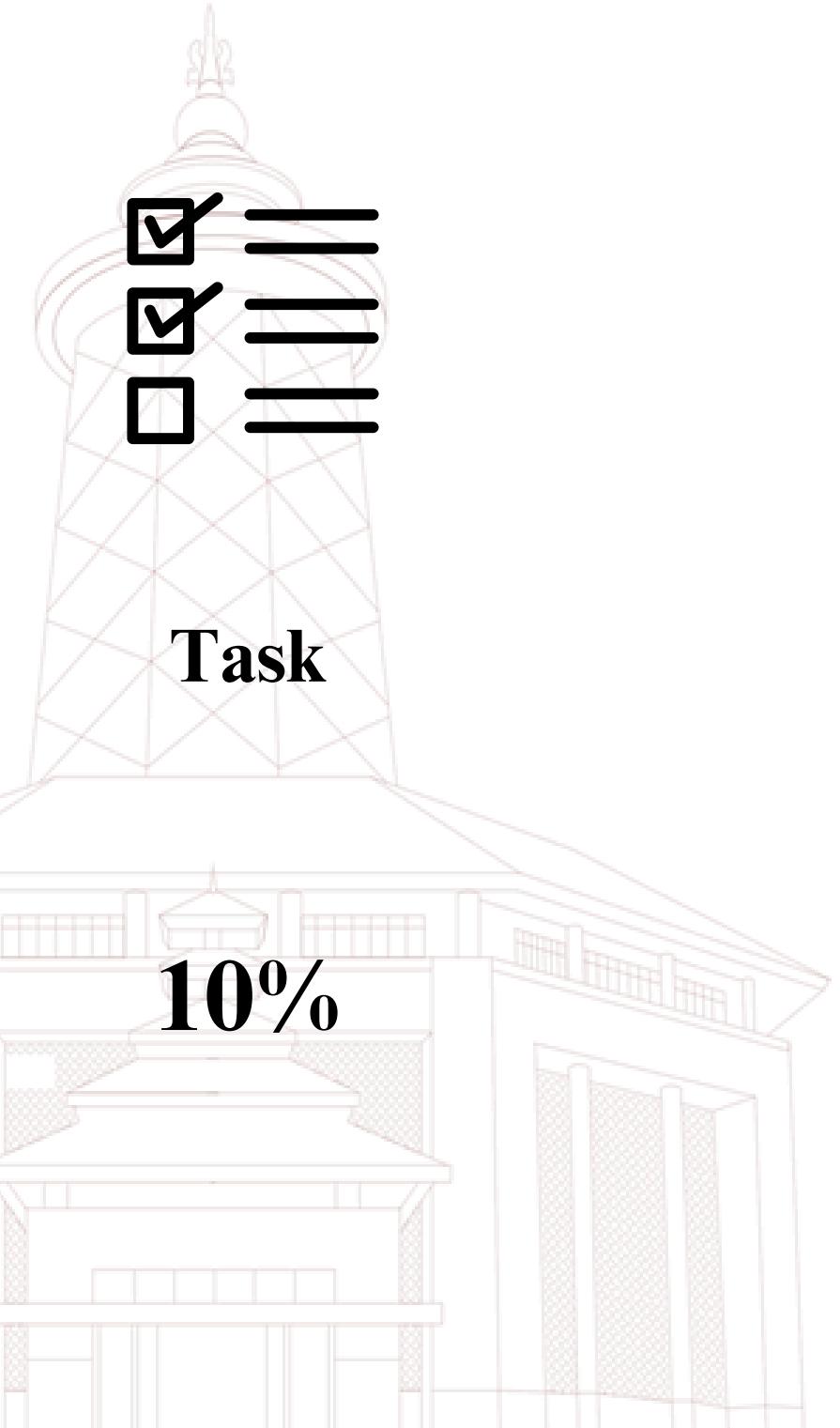
Mid Test  
(UTS)

20%



Final Test  
(UAS)

20%





# #1 Meeting

## Introduction

Retard



*δR*

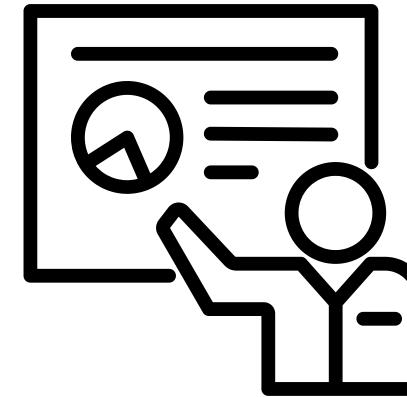




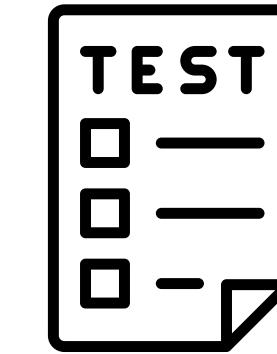
# #1 Meeting

## Introduction

## Presence

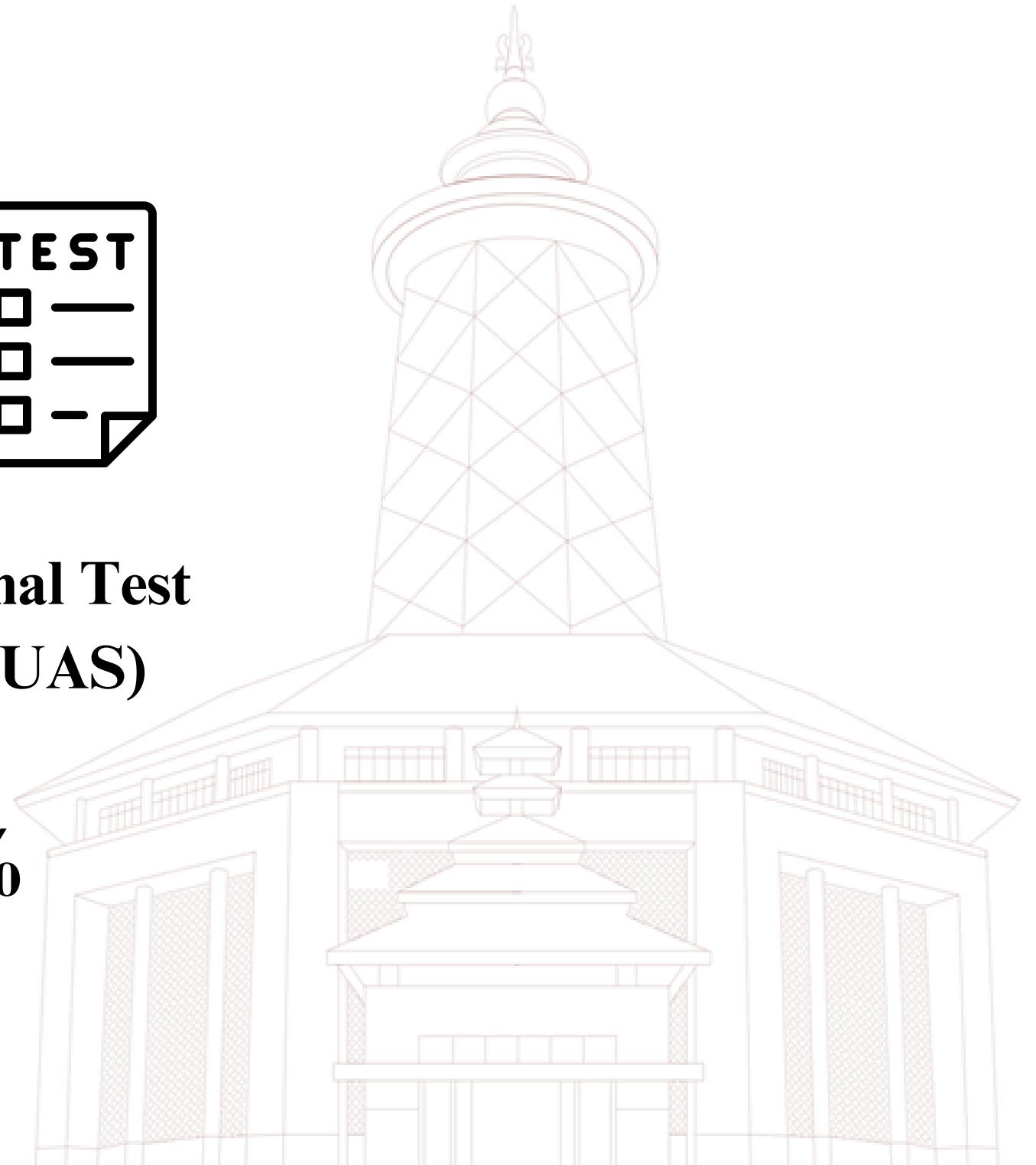


Project  
Presentation



Final Test  
(UAS)

Attendance > 80%

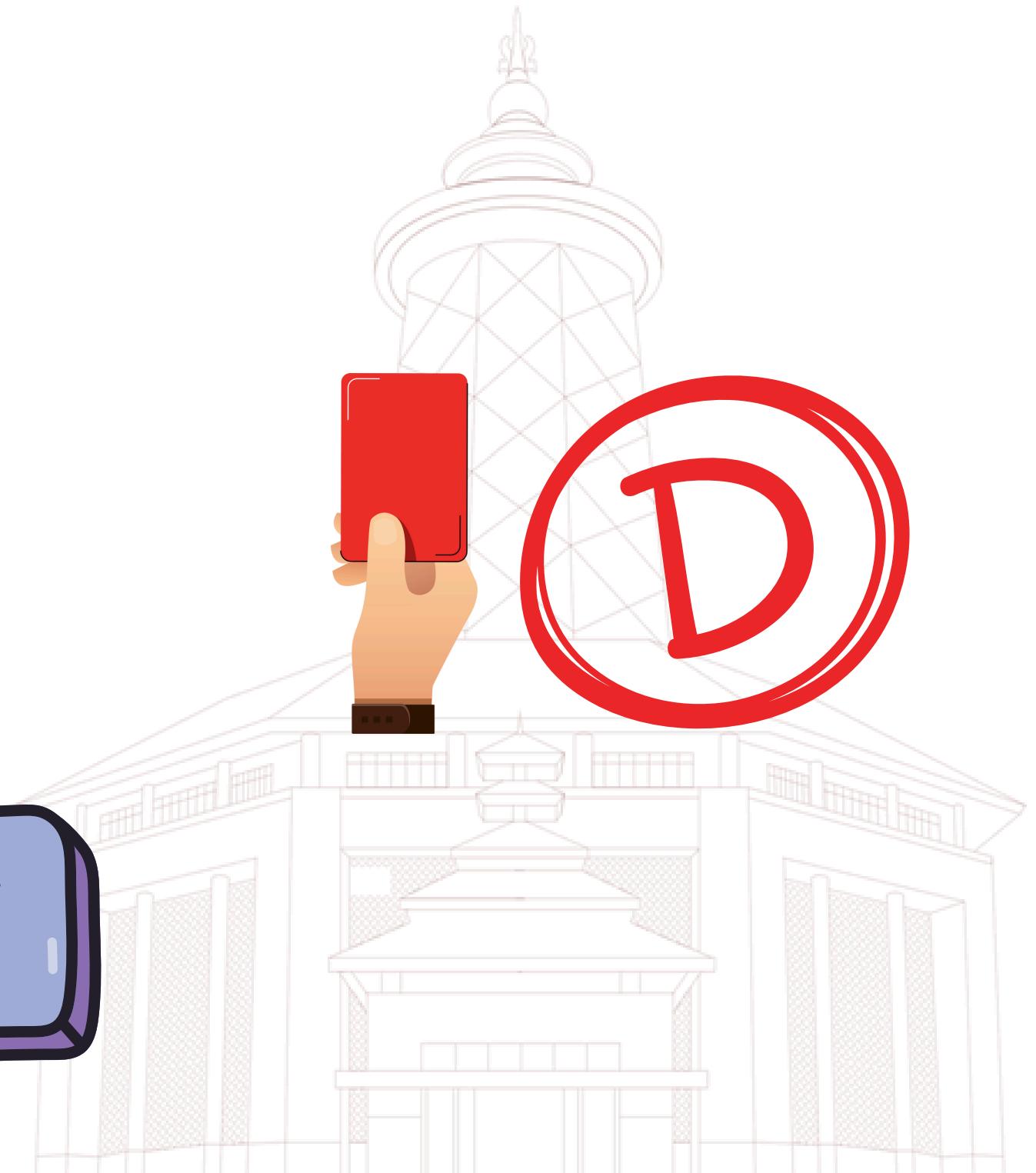
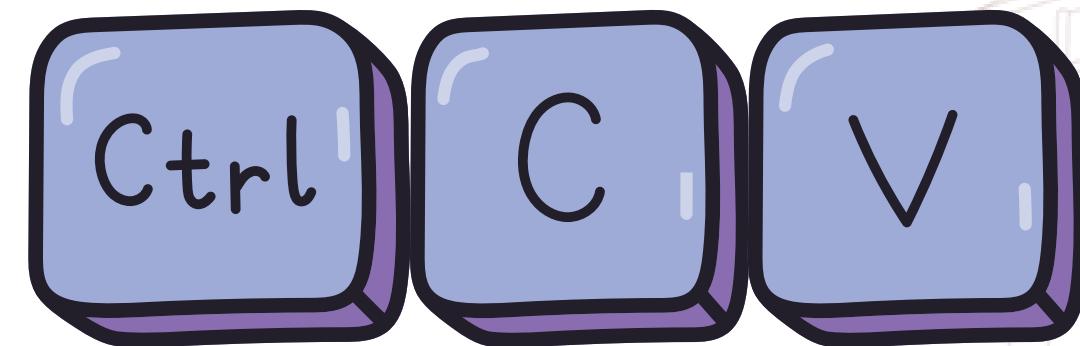
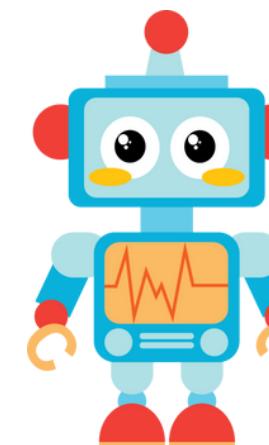




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## Introduction

## Do's and Don'ts



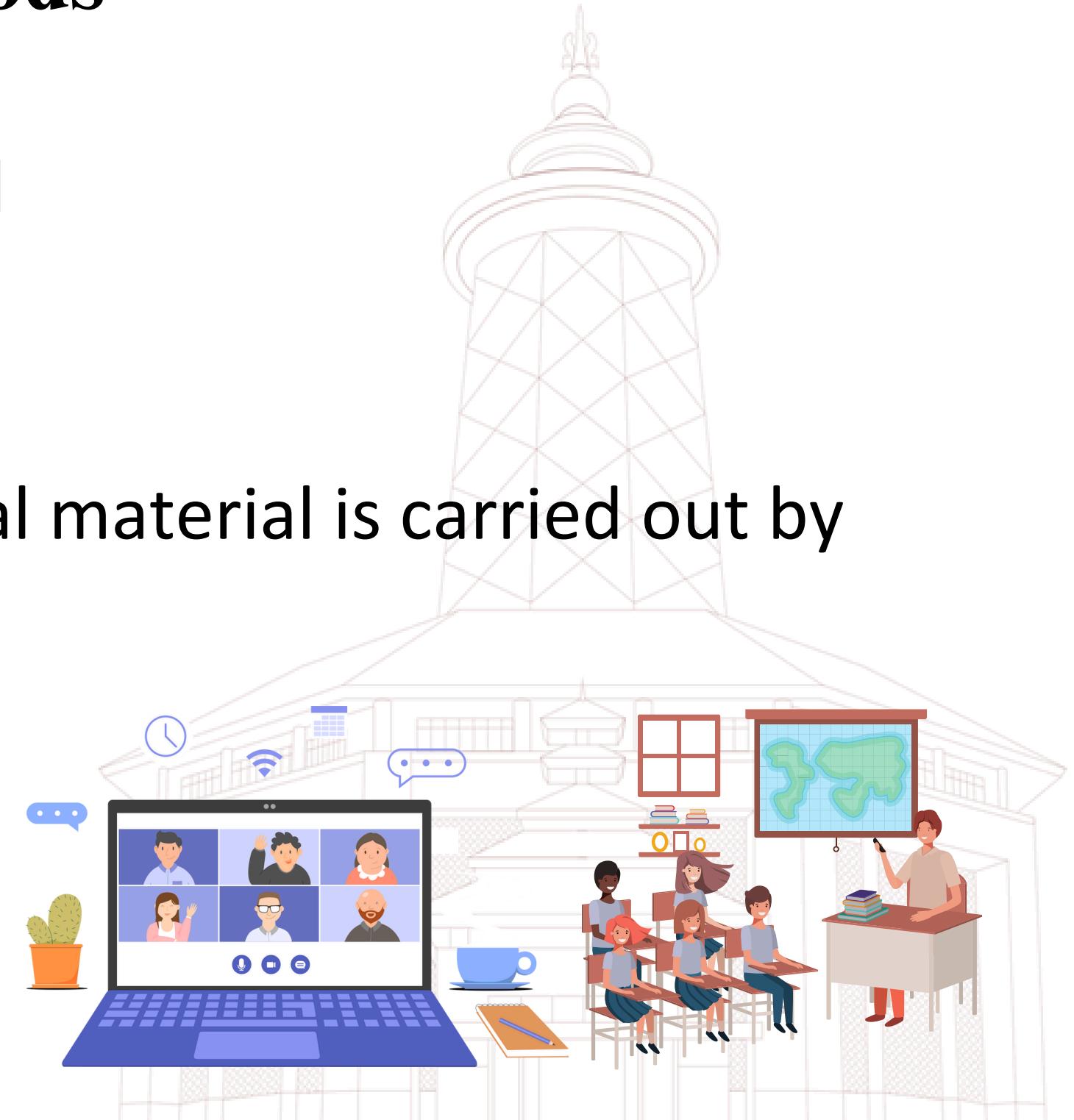


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## Introduction

## Learning Methods

- Combination of lectures and practical
- Hybrid learning (Online and in-Class)
- Bring stationery and laptop
- In-depth study of lecture and practical material is carried out by giving assignments to students.



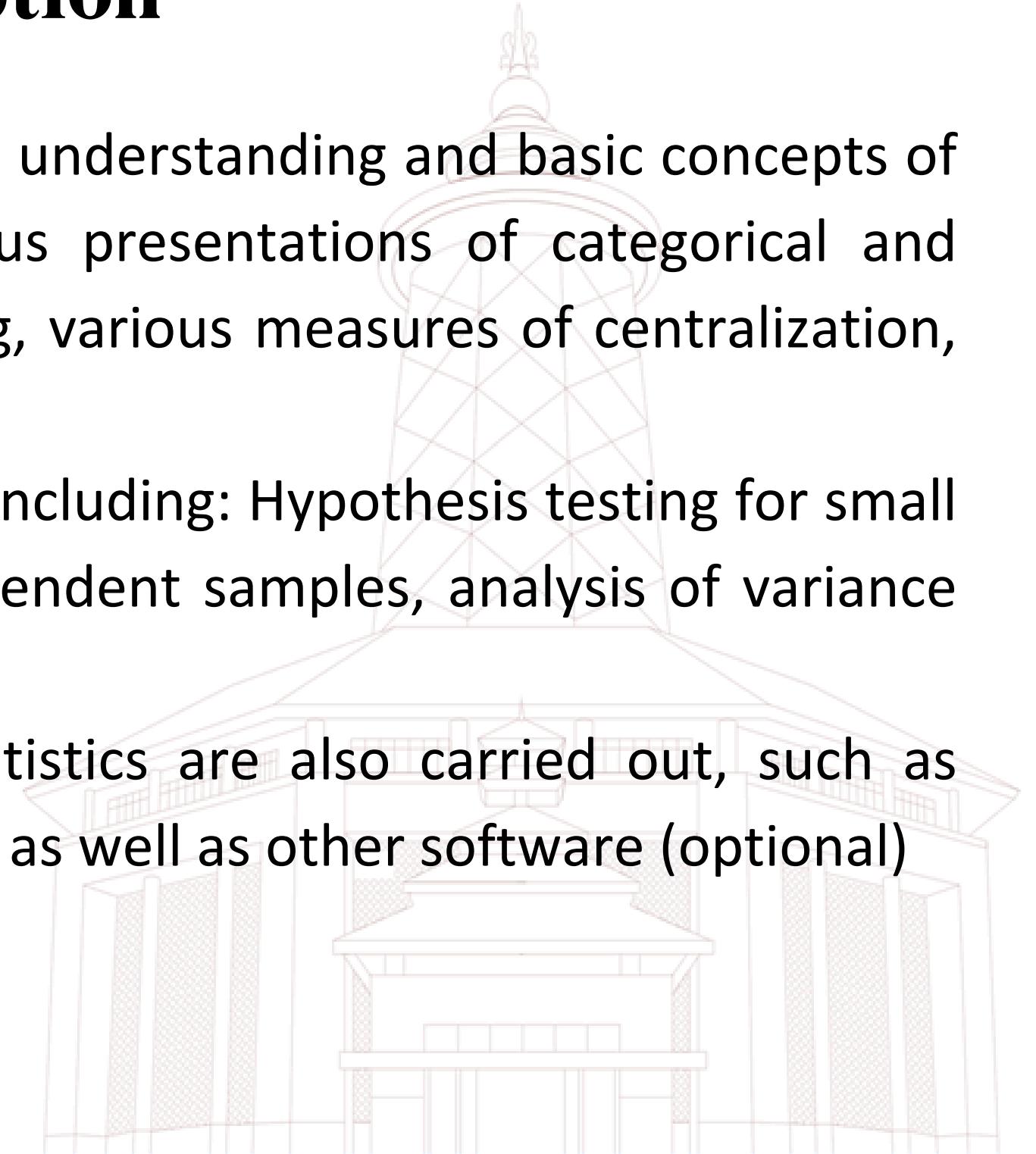


# #1 Meeting

## Introduction

# Material Description

- Social statistics studies descriptive statistics which includes: understanding and basic concepts of statistics, types of variables, measurement scales, various presentations of categorical and numerical data and their interpretations, random sampling, various measures of centralization, dispersion, and location measures.
- In addition, several inferential statistics are also discussed, including: Hypothesis testing for small samples, large samples, paired data t-tests and two independent samples, analysis of variance tests, correlation analysis, and simple regression analysis.
- In addition, computer application practices for social statistics are also carried out, such as Microsoft Excel, Google Sheets (main), and SPSS/Minitab/R, as well as other software (optional)





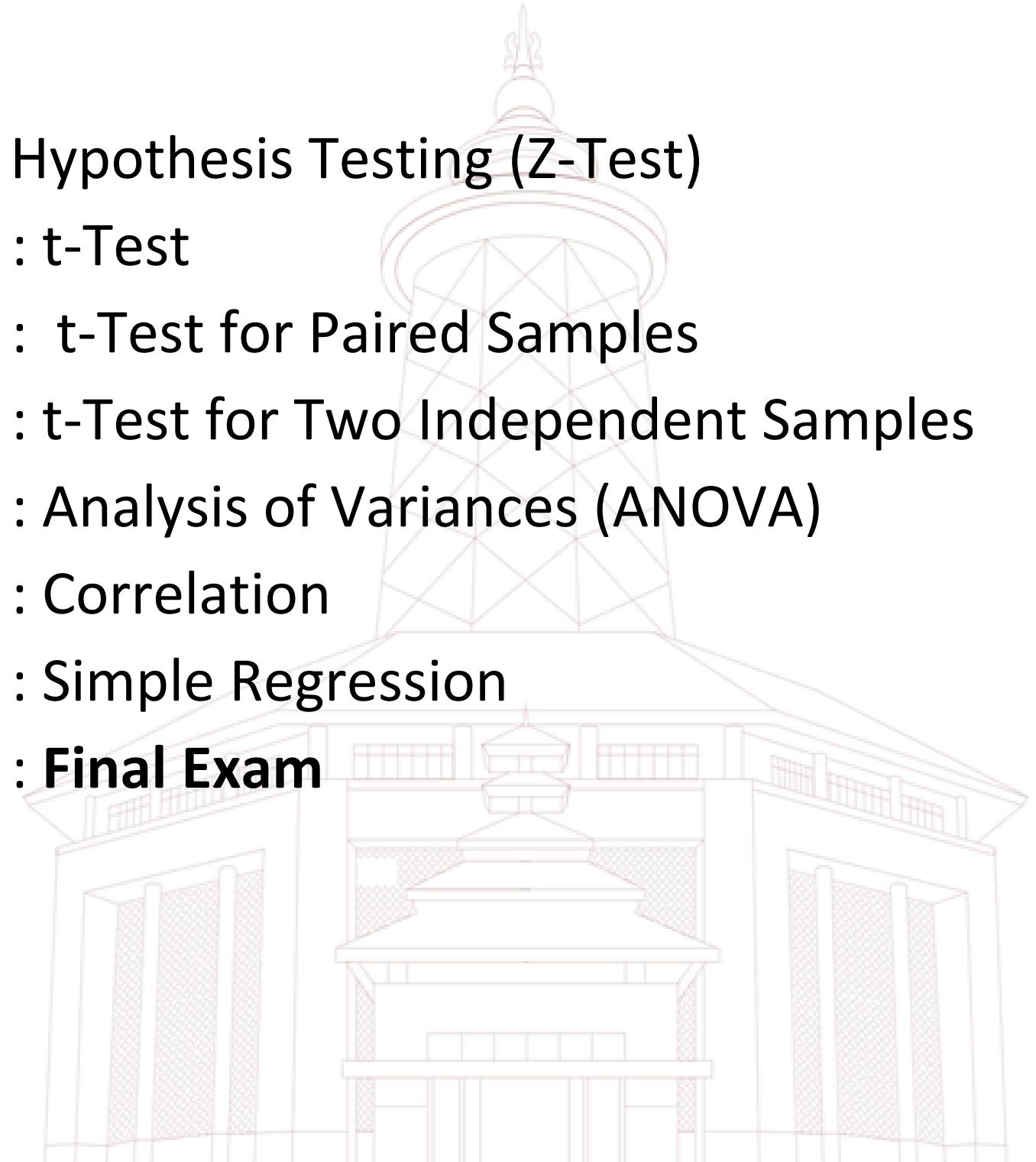
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## Introduction

- Week 1 : Introduction
- Week 2 : Description of the Data
- Week 3 : Probability Sampling
- Week 4 : Nonprobability Sampling
- Week 5 : Central Tendency, Dispersion, and Skewness
- Week 6 : Project-Based Learning: Infographics Project
- Week 7 : Project-Based Learning: Infographics Presentation
- Week 8 : Mid Exam

## Topics

- Week 9 : Hypothesis Testing (Z-Test)
- Week 10 : t-Test
- Week 11 : t-Test for Paired Samples
- Week 12 : t-Test for Two Independent Samples
- Week 13 : Analysis of Variances (ANOVA)
- Week 14 : Correlation
- Week 15 : Simple Regression
- Week 16 : Final Exam



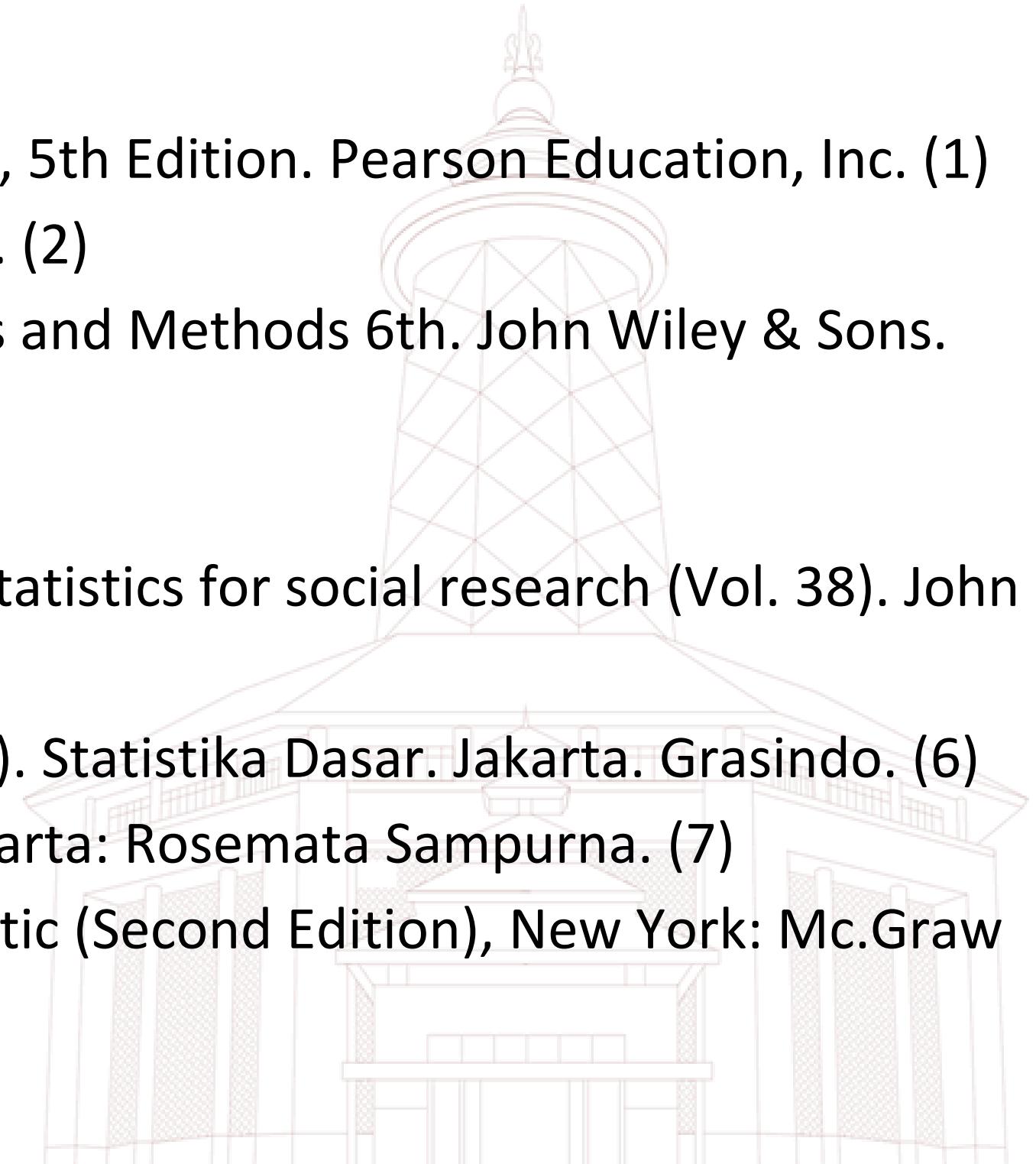


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## Introduction

## References

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## Introduction



# Why Study Statistics ?

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## Introduction



# Statistics or Statistic ?



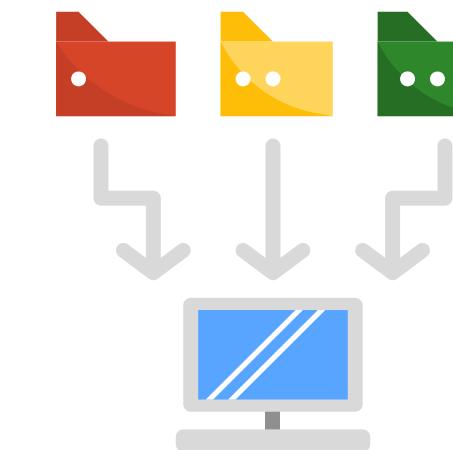
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## Introduction

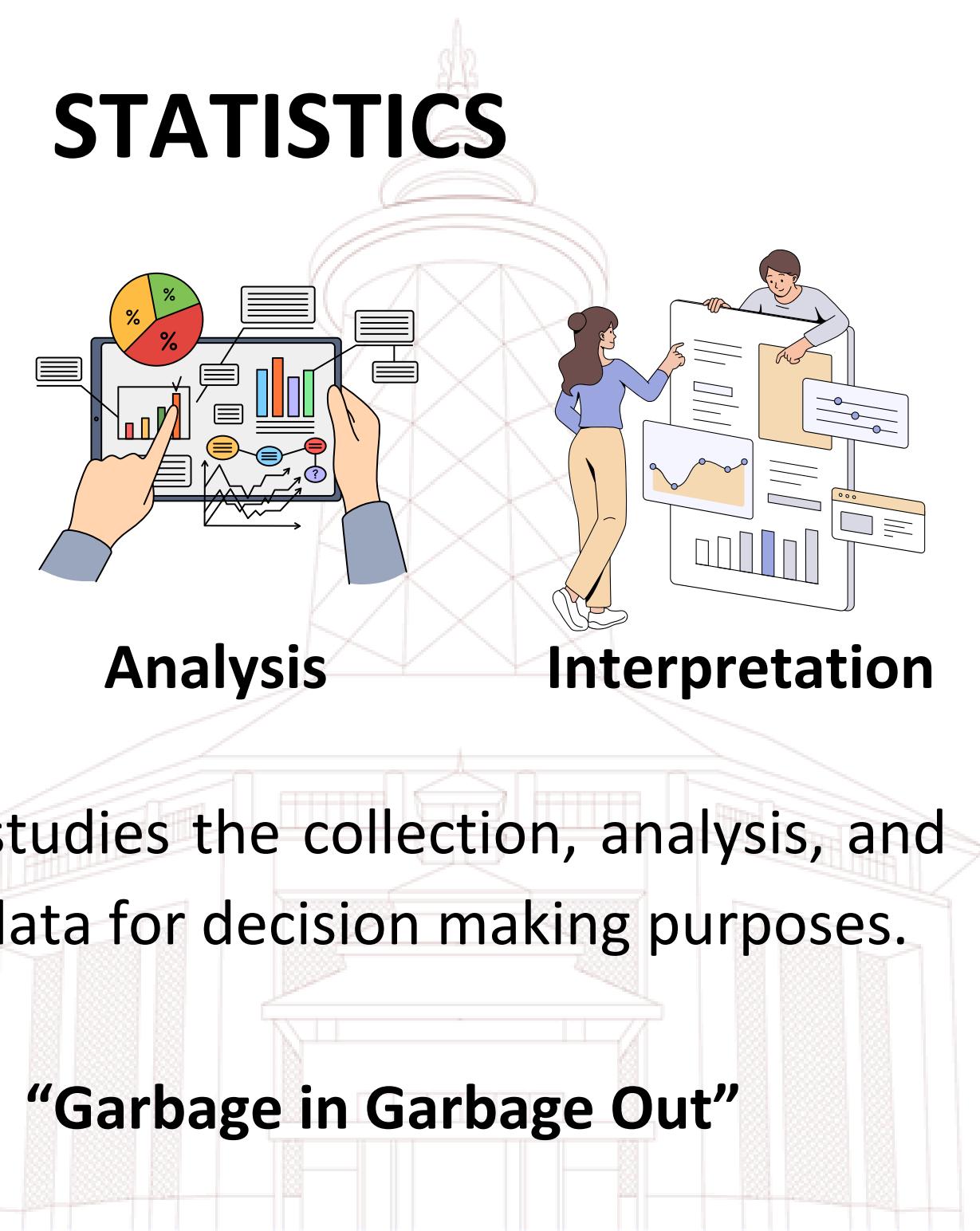


**“Father of Indonesian Statistics”**

Prof. Dr. Andi Hakim Nasution



Collections



**GIGO**

**“Garbage in Garbage Out”**



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## Introduction



# What is the difference?

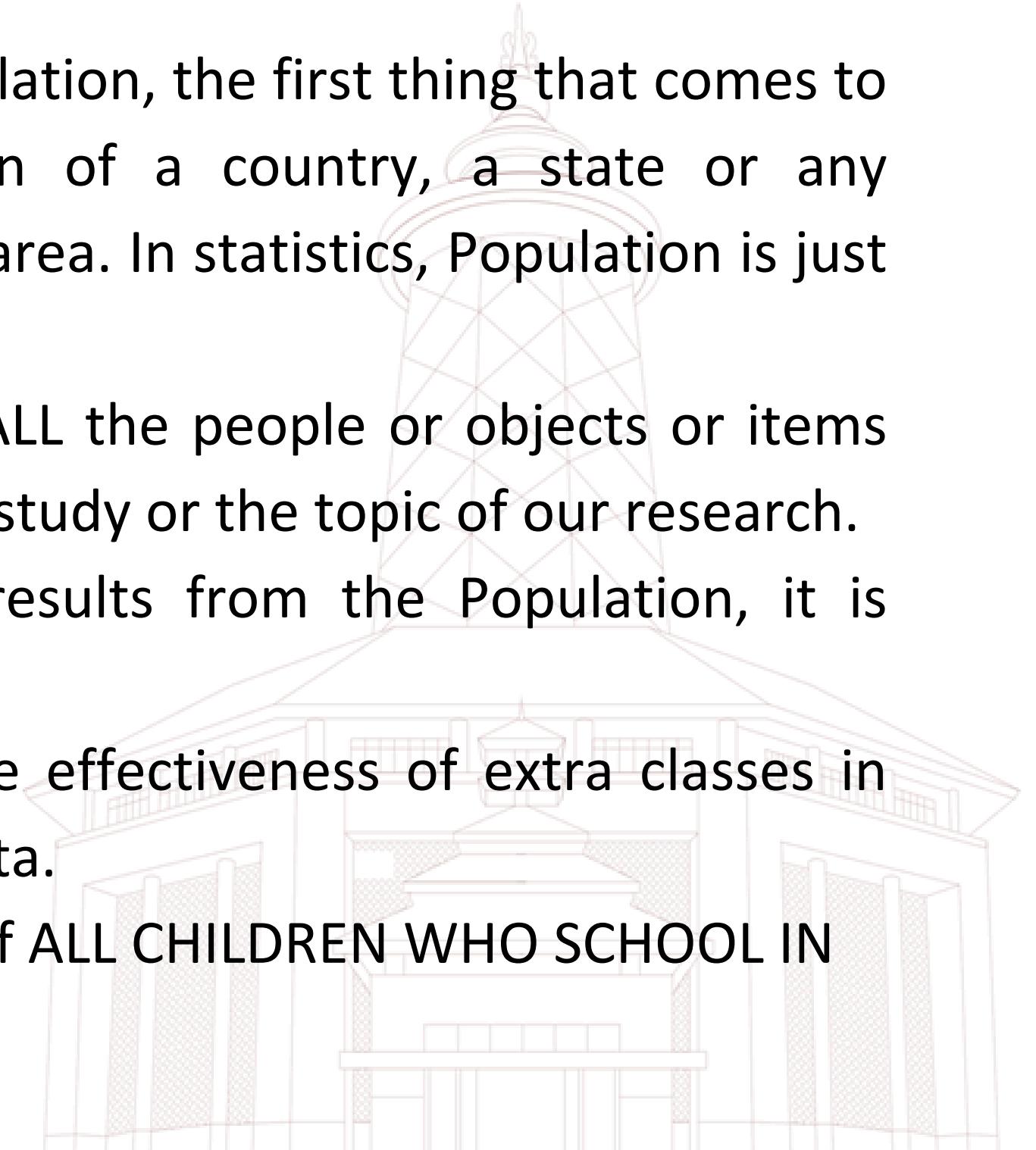


# #1 Meeting

## Introduction



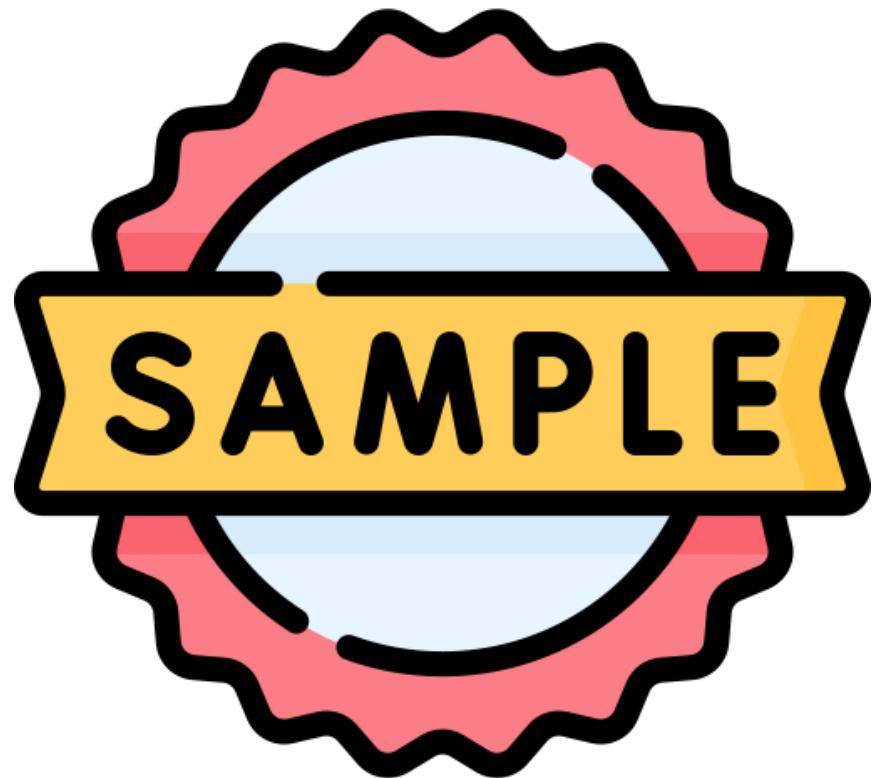
- When we think of Population, the first thing that comes to our mind is population of a country, a state or any particular geographical area. In statistics, Population is just that.
- Population consists of ALL the people or objects or items that are included in our study or the topic of our research.
- When we obtain the results from the Population, it is called a Parameter.
- E.g. I want to study the effectiveness of extra classes in school students of Jakarta.  
My population consists of ALL CHILDREN WHO SCHOOL IN JAKARTA.



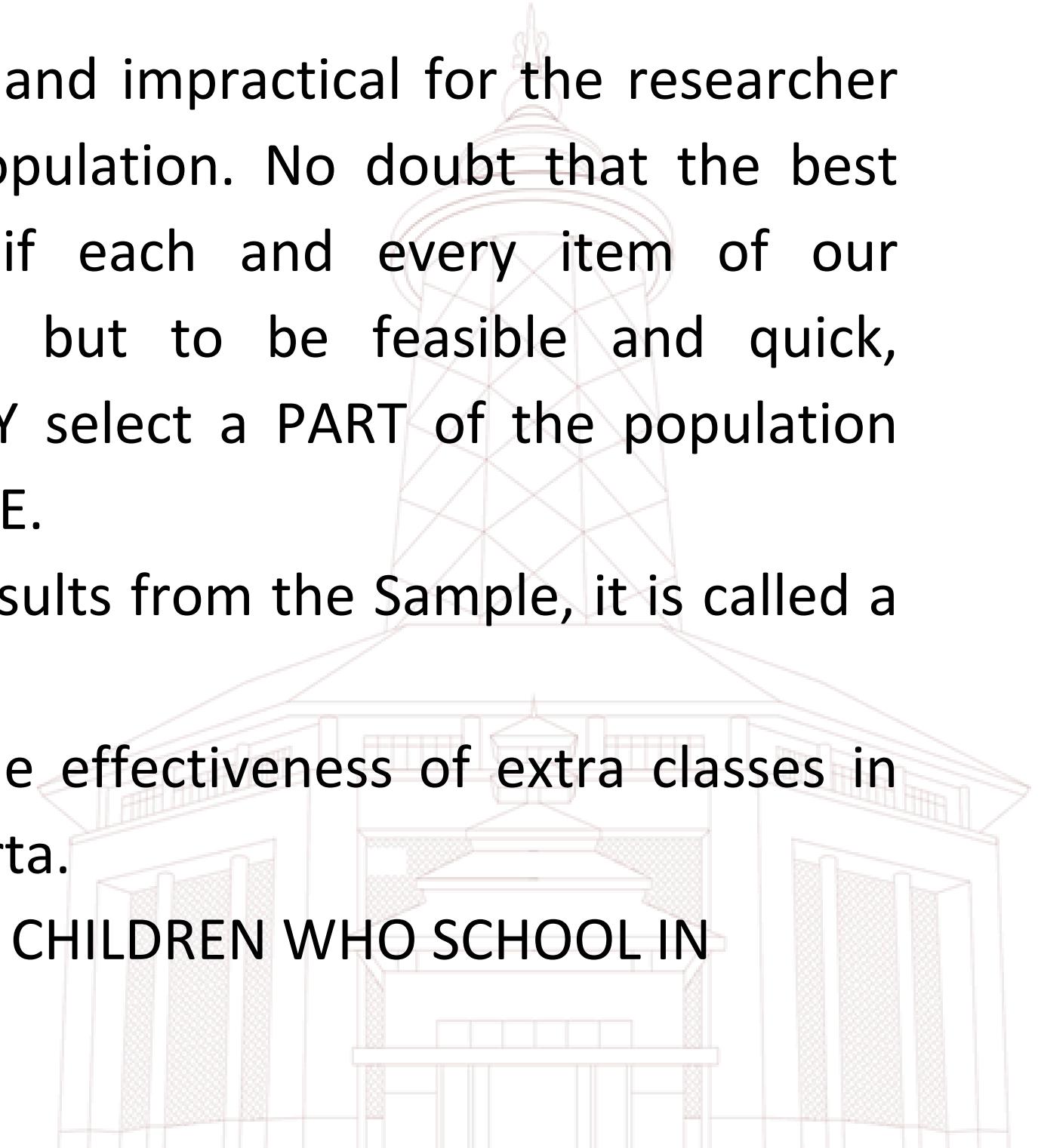


# #1 Meeting

## Introduction



- It is almost impossible and impractical for the researcher to reach the whole population. No doubt that the best results are obtained if each and every item of our population is covered but to be feasible and quick, researchers RANDOMLY select a PART of the population which is called a SAMPLE.
- When we obtain the results from the Sample, it is called a Statistic.
- E.g. I want to study the effectiveness of extra classes in school students of Jakarta.  
My sample is SUBSET OF CHILDREN WHO SCHOOL IN JAKARTA.





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## Introduction

# Why we need Sample?



Limited Resources

Time Issue

Observation is sometimes destructive

Impossible to observe the whole



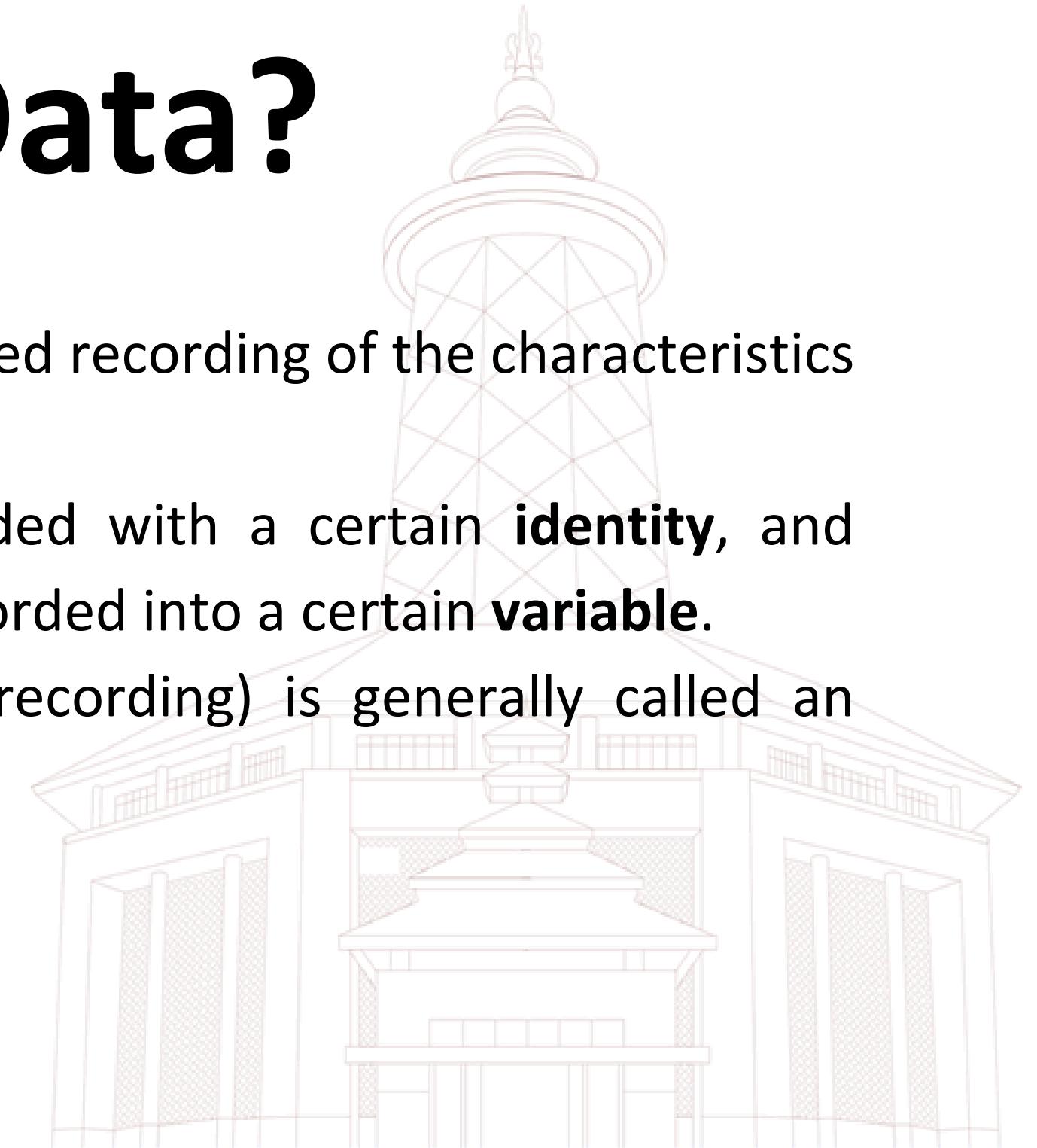
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## Introduction

# What is The Data?



- DATA is A form of repeated recording of the characteristics of an object.
- Each individual is recorded with a certain **identity**, and each characteristic is recorded into a certain **variable**.
- Each individual (in the recording) is generally called an **observation**.





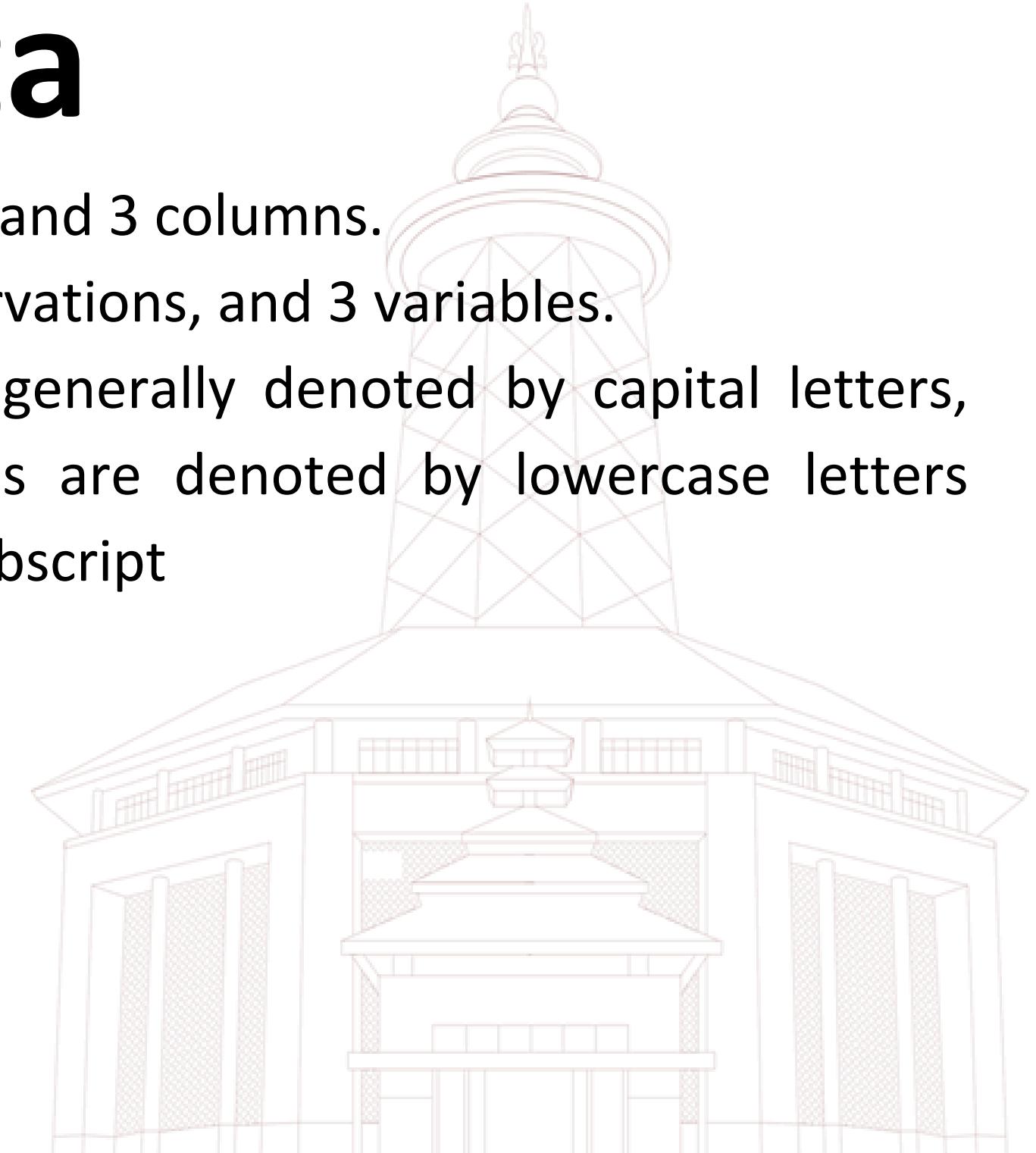
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## Introduction

Observation	X	Y	Z
1	$x_1$	$y_1$	$z_1$
2	$x_2$	$y_2$	$z_2$
3	$x_3$	$y_3$	$z_3$
4	$x_4$	$y_4$	$z_4$
5	$x_5$	$y_5$	$z_5$
6	$x_6$	$y_6$	$z_6$
7	$x_7$	$y_7$	$z_7$
8	$x_8$	$y_8$	$z_8$
9	$x_9$	$y_9$	$z_9$
10	$x_{10}$	$y_{10}$	$z_{10}$

# Raw Data

- A table with 10 rows and 3 columns.
- A dataset of 10 observations, and 3 variables.
- Variable names are generally denoted by capital letters, while variable values are denoted by lowercase letters accompanied by a subscript

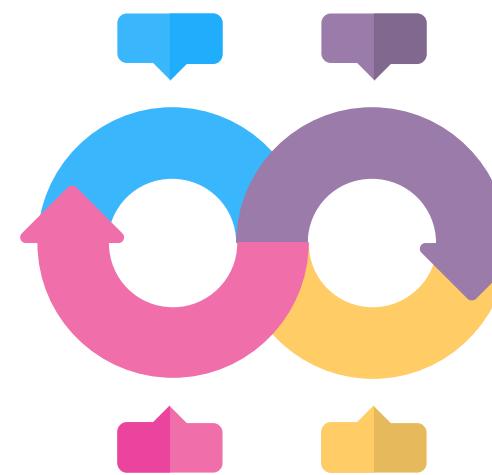


# Statistics in Social Science Research



## Design

- Designing survey or experimental activities
- Planning how to gather data for a research study to investigate questions of interest



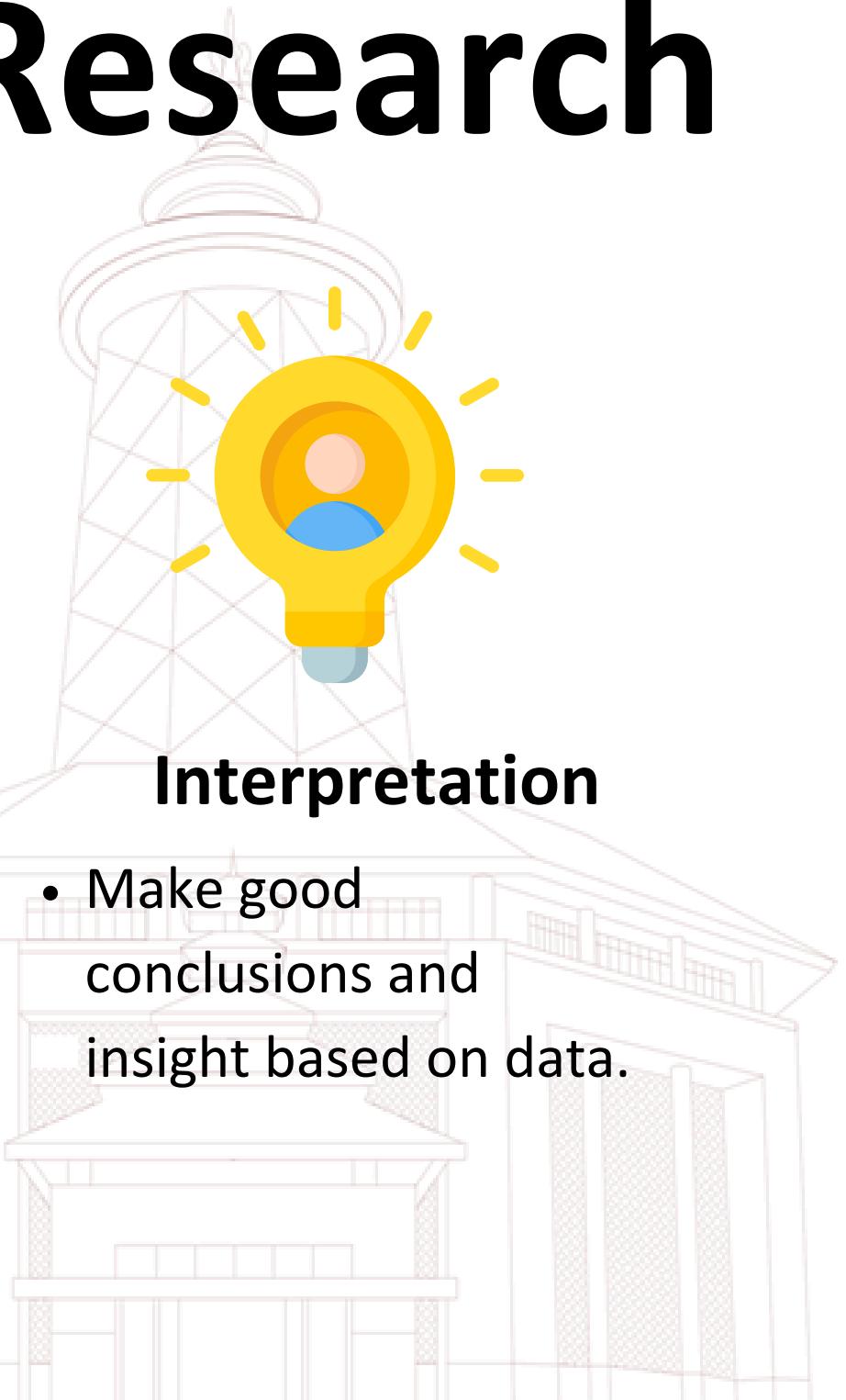
## Descriptive

- Data Exploration: Compile, summarize and simplify data.



## Inference

- Making predictions based on the data, to help us deal with uncertainty in an objective manner.



## Interpretation

- Make good conclusions and insight based on data.

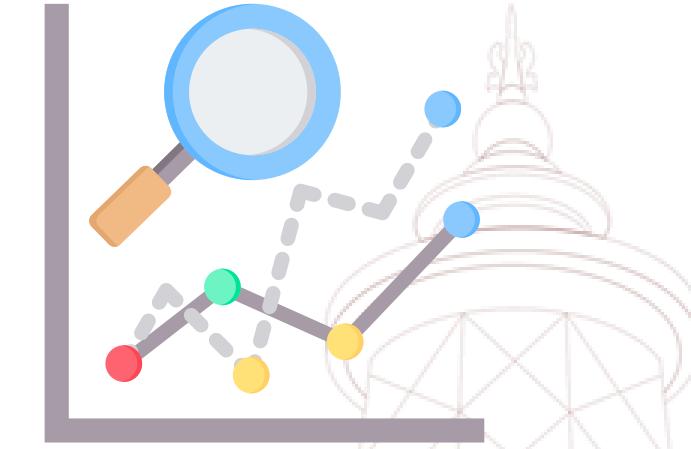
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## Introduction



### Descriptive

1. Gives information about raw data regarding its description or features.
2. To describe a situation.
3. Helps to organize, analyze and present data in a meaningful manner.
4. Use charts, graphs, and tables.



### Inference

1. Draw inferences about the population by using data extracted from the population.
2. To explain the probability of occurrence of an event.
3. Helps to compare data, make hypotheses and predictions.
4. Use probability methods.



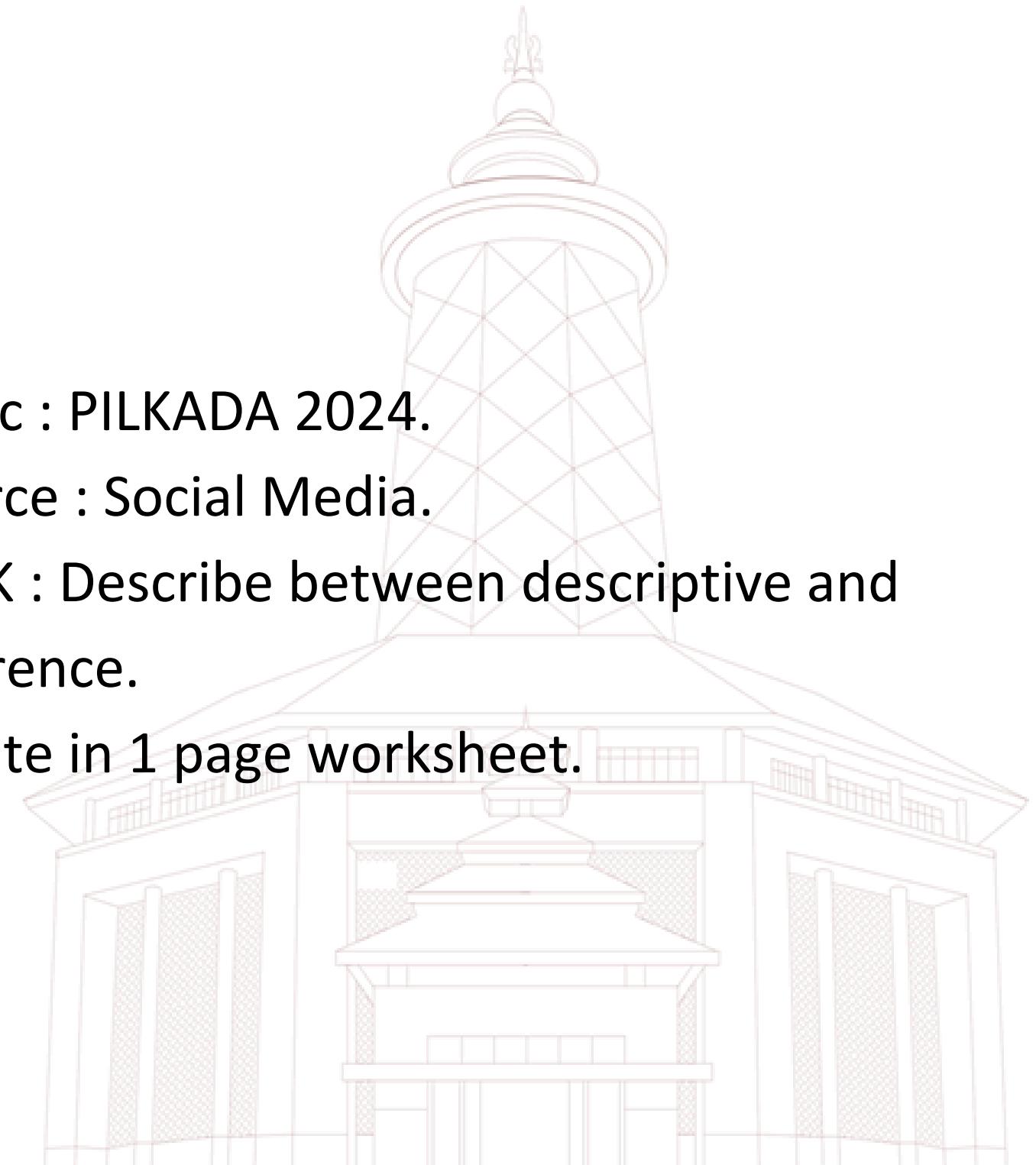
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## Introduction

# TASK



1. Topic : PILKADA 2024.
2. Source : Social Media.
3. TASK : Describe between descriptive and inference.
4. Create in 1 page worksheet.





# SEE YOU NEXT WEEK !

