# Team 19

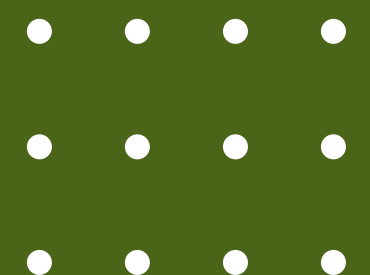# UPI Data Statistical Analysis

Adi Jain: 21BCS003

Chaytali Jawalekar: 21BCS026

Ekansh 21BCS037
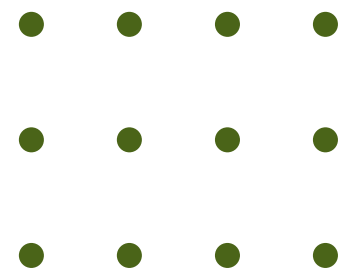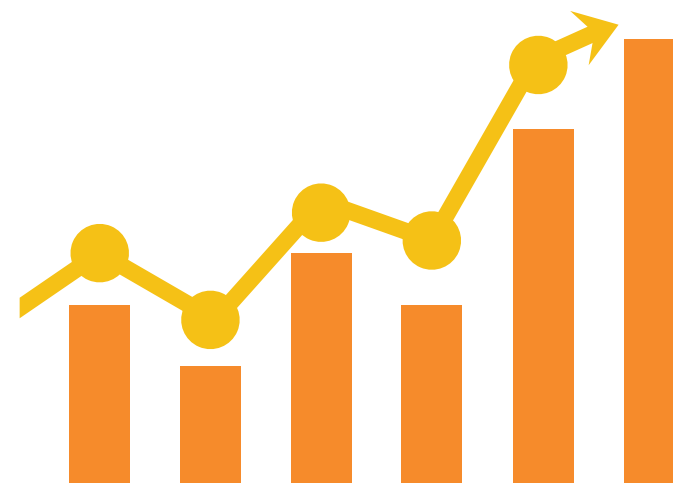
Deepika 21BCS030

# Introduction

We have analysed the UPI transaction data from the year 2021 and 2022. It contains several banks, Volume (Mn) by Customers, Value (Cr) by Customers, Volume by Businesses, value by Business,

# Methodology

We have used the data set form Dataful Website. After that we have normalized the data for the Parametric test using Log Transformation method. After that we have performed Parametric tests. For the Non parametric test we have used the data which is not Normalized and then performed the respective test

# Tech Stack

- **Python**
- **Google Colaboratory**

# Libraries used

- **NumPy (imported as np): Used for numerical operations, calculations, and statistical functions**
- **Pandas (imported as pd): Used for data manipulation and analysis, particularly for handling datasets in DataFrame format.**
- **Math: Python's built-in math library is used for mathematical operations.**
- **Random: The random module is used for generating random samples in the proportion tests.**
- **Matplotlib (imported as plt): Used for creating visualizations, such as bar charts.**

# Parametric Tests

One Sample Z test
Two Sample Z test
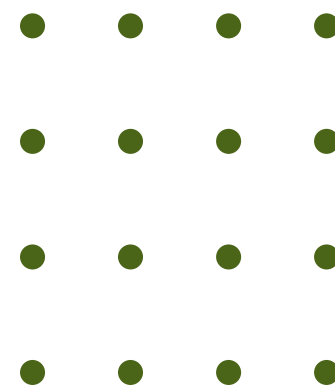T-test for one sample
T-test for two sample
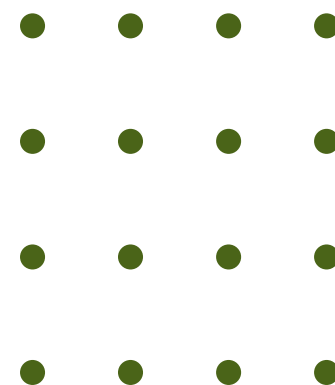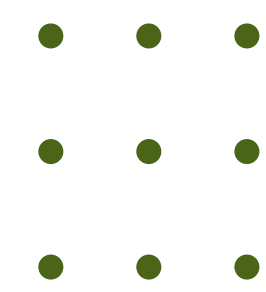
# Code In Google Colab

Google Colaboratory
google.com
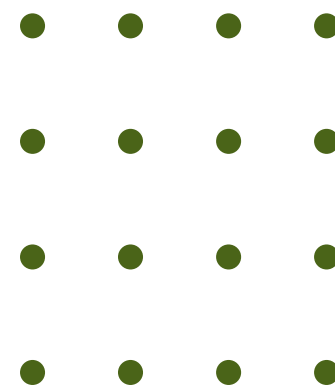
# Non - Parametric Tests

## Unit III

Runs Test
Single sample Sign test
Paired sample Sign test
Wilcoxon Rank Sum Test
Wilcoxon Signed rank test

# CATEGORICAL DATA ANALYSIS AND GOODNESS OF FIT TESTS

## Unit IV

CHI Square Test-Goodness of fit

CHI Square Test-Test for Homogeneity

CHI Square Test-For Independence

CHI Square Test-2x2 Contingency table
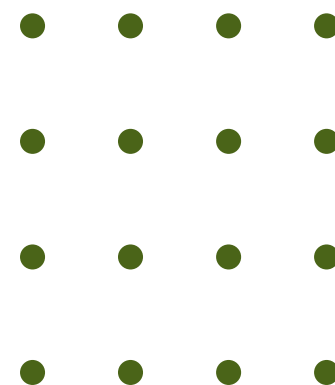
# ESTIMATION OF SAMPLE SIZE
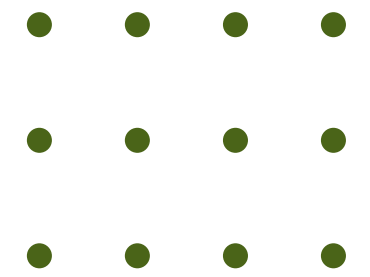
## Unit V

Sample Size Estimation

Sample Size Estimation for single mean

Sample Size Estimation for Proportion: One Sample

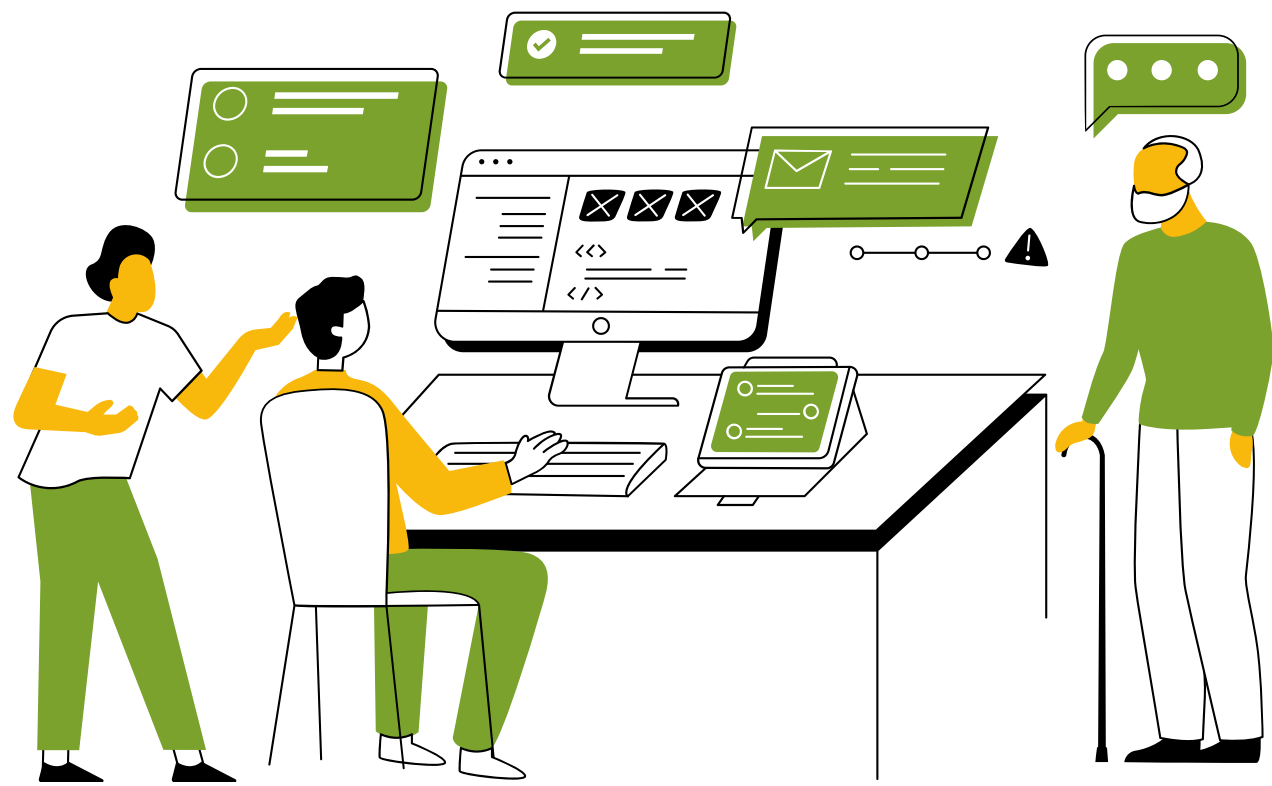Sample Size Estimation for Proportion: Two Sample

# Conclusion:

- **A better understanding of the patterns of UPI usage among the customers of specific banks**
- **An identification of the factors that influence UPI usage**
- **A determination of whether there are any significant differences in UPI usage between different types of banks**
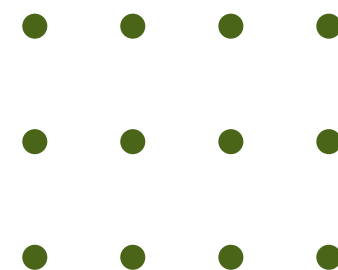
THANK YOU

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