**Assignment 1:**

## Attached is the dataset we used in the sessions to compare the growth of A stores with B stores. Please answer the following questions, taking into account both A & B:

## Construct a table of year-of-opening versus the number of stores opened in that year.

## Plot the openings as a histogram, and make your observations visually.

## Knowing this trend, we try to predict "linearly" as follows:

## C1. Use the SLOPE and INTERCEPT functions on the table you have constructed - the y-values are the no. of store openings, and the x-value is the year of opening. You get two values, say m and c.

## C2. For each year y, make a prediction using the equation: no of openings = m times the year + c

## C3. Plot a line graph for both the original as well as predicted data. Why is there a "bend" in the first few years on the prediction?

## Assignment 2:

The following table shows the observed distribution of A, B, AB, and O blood types in three samples of Indian living in different locations.

Test at the α = 0.05 level of significance, whether the distribution of blood type for Indian is different across the three regions.

|  |  |  |  |
| --- | --- | --- | --- |
|  | I (Madison) | II ( Topeka) | III (Seattle) |
| A | 122 | 1781 | 353 |
| B | 117 | 1351 | 269 |
| AB | 19 | 289 | 60 |
| O | 244 | 3301 | 713 |

## Assignment 3:

## Attached is a dataset on India's companies (India Companies’ data.xls) which will form your subject of study.

## Construct a random sample of 100 companies. Construct a pivot table based on the Industry Group, and calculate the average market cap for each group.

## With a stratified sample of 100 companies based on Industry Group, construct the same table above. Compare the two.

## Profile the stock prices of the companies as a histogram. Describe what you see.

## Create 50 samples of 100 companies, and calculate the sample averages. Profile them. Can you claim the Central Limit Theorem? Why?