DATA ANALYTICS USING EXCEL

Agenda

- Phases of a data analytics project
- Data Cleaning
- Functions
- Sort and filter
- Lookup functions
- Conditional Formatting
- Data Validation
- Pivot Tables
- Data Visualisation using Excel

PHASES OF DATA ANALYTICS PROJECT

Phases of data analytics project

Phases of data analytics project

- Setting Up of problem statement
- Performing preliminary analysis
- Fixing misspellings / typos
- Removing duplicates
- Checking for bias

Phases of data analytics project

- Understanding the problem statement
- Adjusting and formatting data
- Finding Appropriate relationships between data sets

Phases of data analytics project

- Delivering data in most efficient way.
- Helps make critical decisions in an unbiased manner.

DATA CLEANING

Data Cleaning

Importance of Data Cleaning

- To ensure high **data integrity**.
- To check if there is any **bias** involved in data collection.
- Data should be in-line with problem statement.
- Data should have complete sample size.
- There should be **uniformity** in data.

FUNCTIONS

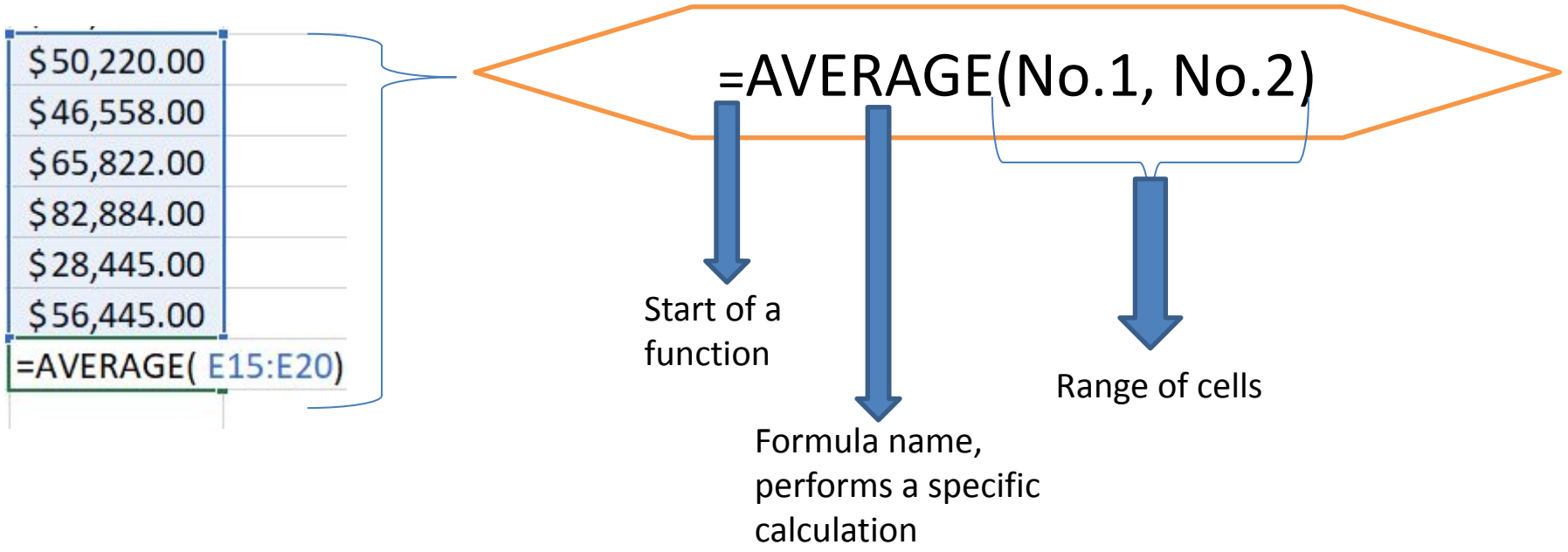
Types of Functions

What are Functions?

They are pre defined instructions that perform specific calculations in a particular order in a spreadsheet.

Basic syntax of function:-

= Formula(Range of cells)



Types of Functions

- **COUNT IF**
- **LEN**
- **LEFT/RIGHT**
- **CONCATENATE**
- **TRIM**

Types of Functions

COUNTIF

A function that counts the number of cells that match a specific condition.

= COUNTIF(Range, “Condition”)

Types of Functions

LENGTH

A function that returns the length of a text string.

= LEN(Cell)

Types of Functions

LEFT/RIGHT

A function that returns specific number of characters from left/right side in a cell.

= LEFT(Cell, No. of characters)
= RIGHT(Cell, No. of characters)

Types of Functions

CONCATENATE

A function that combines multiple text cells into a single cell.

= CONCATENATE**(CELL-1, CELL-2)**

Types of Functions

TRIM

A function that removes extra unwanted spaces from the cell.

= TRIM(CELL-1)

SORT AND FILTER

LOOKUP FUNCTIONS

Lookup Functions

VLOOK UP

A function that searches for a certain value in a column to return a corresponding piece of information.

= VLOOKUP(look up value, table array, column_index_num, true/false)

Lookup Functions

HLOOK UP

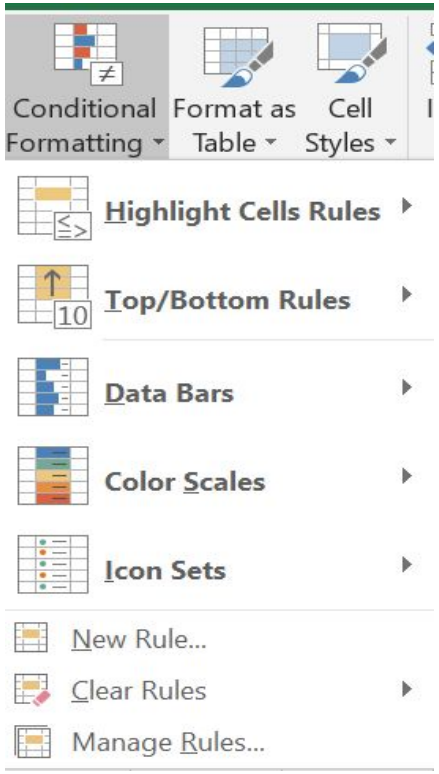
A function that searches for a certain value in a row to return a corresponding piece of information.

= HLOOKUP(look up value, table array, Row_num, true/false)

CONDITIONAL FORMATTING

Conditional Formatting

An Excel tool that changes how cells look when value meets specific conditions.



DATA VALIDATION

Data Validation

A tool that allows you to control what could or could not be entered in your spreadsheet.

PIVOT TABLES

Pivot Tables

What are Pivot Tables?

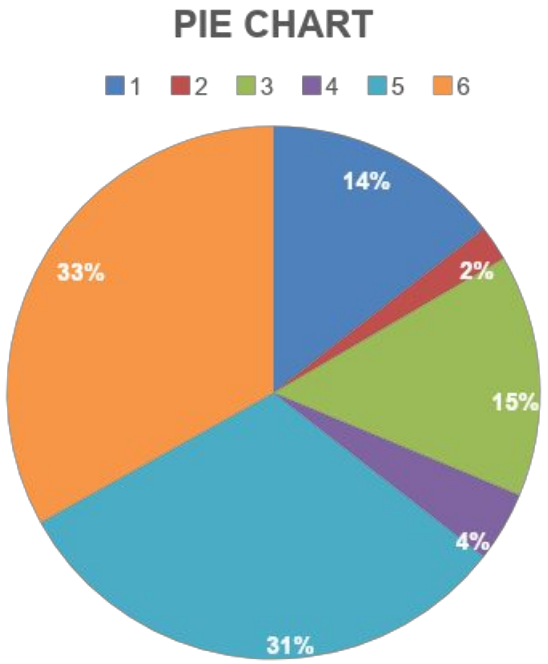
- A Pivot Table is used to **sort, count, group, total** or reorganize data stored in a table.
- It helps us to Change rows into columns and columns into rows.
- The Pivot fields (column) can be grouped, and **advanced calculations** could be performed on them.

DATA VISUALISATION USING EXCEL

Data Visualization

PIE CHART

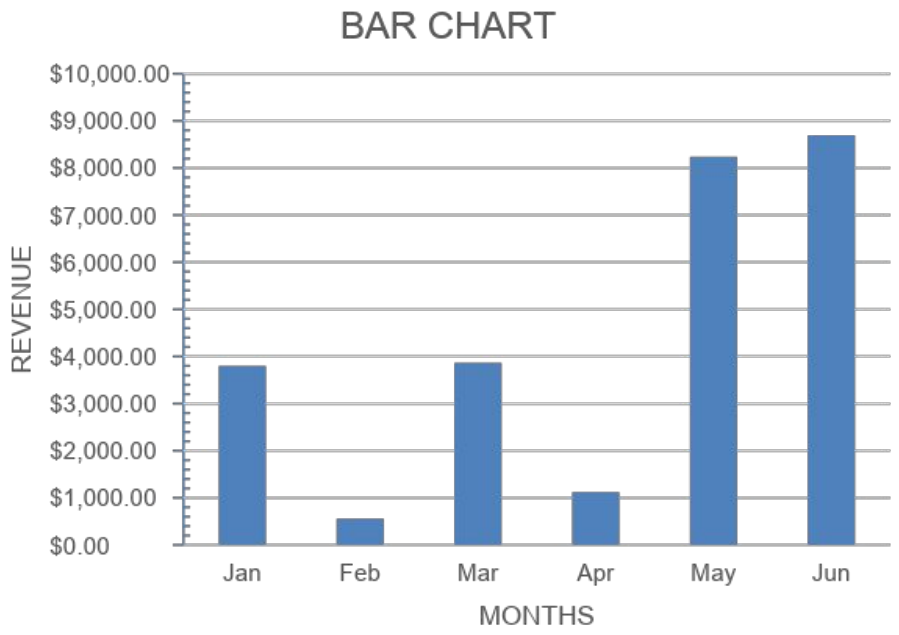
- Pie chart represents a part-to-whole relationship.
- Each pie slice is composed of three components: area, central angle and arc length.



Data Visualization

BAR CHART

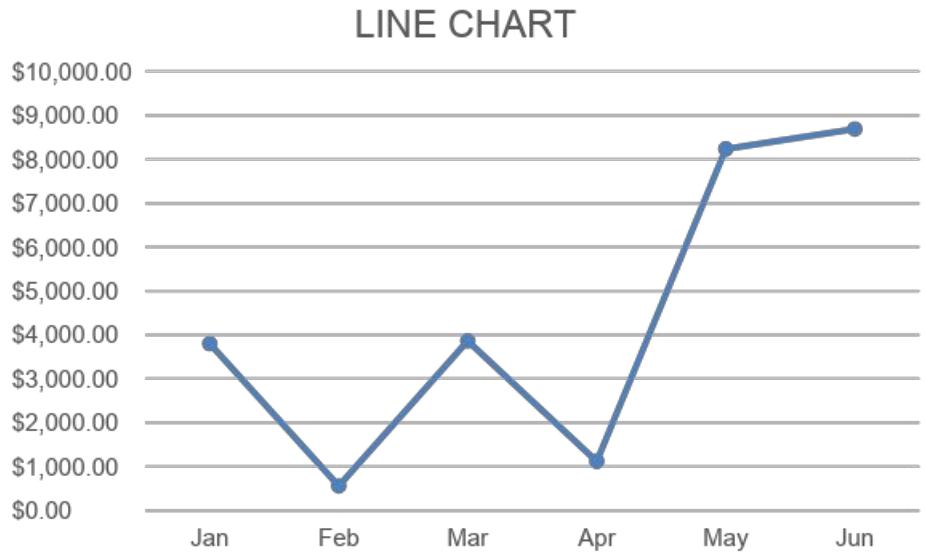
- A chart that uses bands of different heights to show different amounts so that they can be distinguished.
- A bar chart is used to represent Comparative data.



Data Visualization

LINE CHART

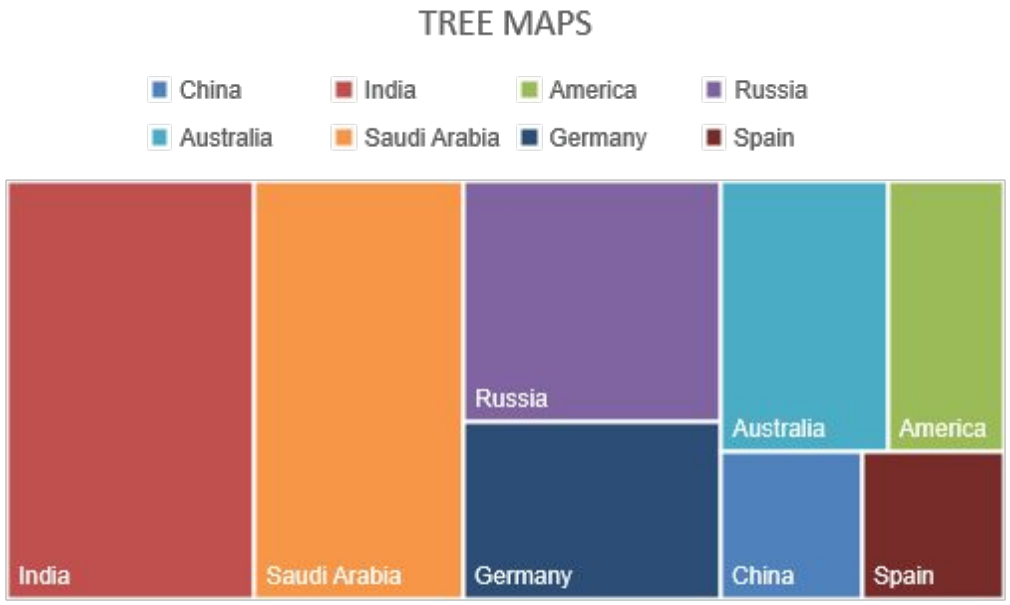
- It is visual representation to show changes over time.
- The Category data is along the horizontal axis, and all value data is along the vertical axis.
- It is preferred when one parameter is non numeric.



Data Visualization

TREE CHART

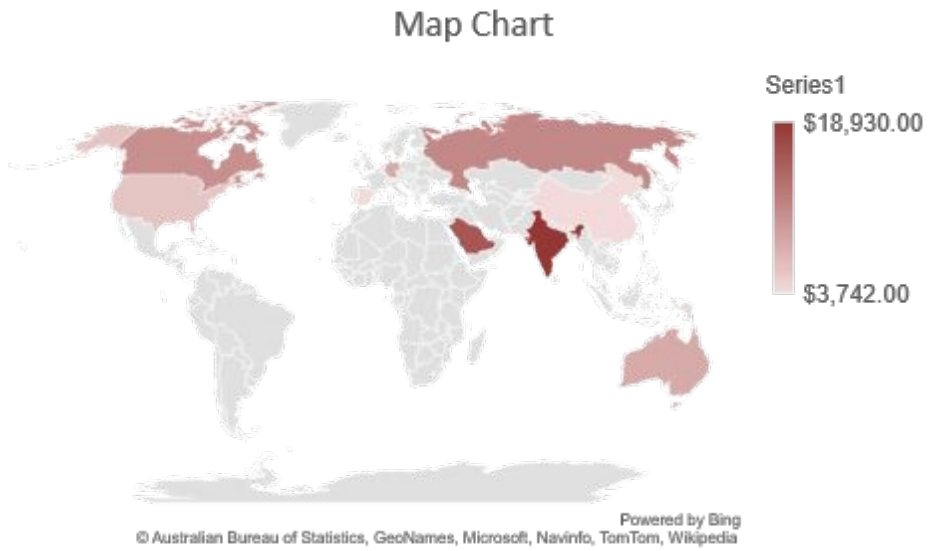
- Provides a hierarchical view of your data.
- It makes it easy to recognize patterns.
- Good for comparing proportions within the hierarchy.



Data Visualization

MAP CHART

- It is used to navigate values and show categories across different geographical regions.
- Mostly used in a dataset that contains data about Imports/Exports.



Summary

- We discussed about the phases of a data analyst project.
- We learnt about the importance of data cleaning.
- Then we discussed about different types of function.
- Furthermore we learnt about conditional Formatting.
- Then we got a brief overview of Data Validation and Pivot Tables.
- At the end we discussed about Visualizing data using Excel charts.

Thank You