**Day 1: Excel Basics – Let’s Start**

**Key Excel Concepts for Data Analysts**

1.Formulas

2.Data Cleaning

3.Conditional formatting

🧩 **Step 1: Create Your Dataset (5–10 mins)**

| **Product** | **Sales** | **Region** |
| --- | --- | --- |
| Apple | 12000 | Pune |
| Banana | 8000 | Mumbai |
| Mango | 15000 | Pune |
| Apple | 12000 | Pune |
| Kiwi | 9800 | Delhi |
|  |  |  |

📐 **Step 2: Basic Formulas (SUM, AVERAGE, VLOOKUP, IF)**

1. **SUM & AVERAGE**
2. 💡 Total and average sales—must-know for reporting.
3. 🧪 In a new cell below your data (say cell B7):

**=SUM(B2:B6)**

(if u write SUM(B2,B6)it will consider only B2 and B6.)

**=AVERAGE(B2:B6)**

(if u write SUM(B2,B6)it will consider only B2 and B6.)

|  |  |  |
| --- | --- | --- |
| Product | Sales | Region |
| Apple | 12000 | Pune |
| Banana | 8000 | Mumbai |
| Mango | 15000 | Pune |
| Apple | 12000 | Pune |
| Kiwi | 9800 | Delhi |
| Sum | 56800 |  |
| Average | 11360 |  |

**2. VLOOKUP**

**💡 Used when looking up data from a "master table" or dataset.**

**=VLOOKUP("Mango", A2:C6, 2, FALSE)**

The format is **=VLOOKUP(lookup\_value, table\_array, col\_index\_num, [range\_lookup])**

>>The Excel command =VLOOKUP("Mango", A2:C6, 2, FALSE) is used to search for the value "Mango" in the first column of the range A2:C6 and return the corresponding value from the second column of that range.

* **"Mango" → The value to search for (lookup value).**

First column must contain the lookup value (VLOOKUP searches only the leftmost column).

* **A2:C6 → The table range where Excel searches for "Mango" in the first column (A).**
* **2 → The column index from which to return the result (column B, since A=1, B=2, C=3).**

If col\_index\_num is 3, it would return Pune (from column C).

* **FALSE → Ensures an exact match (if TRUE or omitted, it allows approximate matches).**

FALSE ensures exact match (if "Mango" is not found, it returns #N/A).

|  |  |  |
| --- | --- | --- |
| Product | Sales | Region |
| Apple | 12000 | Pune |
| Banana | 8000 | Mumbai |
| Mango | 15000 | Pune |
| Apple | 12000 | Pune |
| Kiwi | 9800 | Delhi |
| Sum | 56800 |  |
| Average | 11360 |  |
| VLOOKUP | 15000 |  |

**3. IF Function**

💡 Used for classification like “High/Low”, “Pass/Fail”, etc.

🧪 In cell D2:

**=IF(B2>10000, "High", "Low")**

🧪 Drag the formula down.

|  |  |  |  |
| --- | --- | --- | --- |
| Product | Sales | Region | Use if condition |
| Apple | 12000 | Pune | HIGH |
| Banana | 8000 | Mumbai | LOW |
| Mango | 15000 | Pune | HIGH |
| Apple | 12000 | Pune | HIGH |
| Kiwi | 9800 | Delhi | LOW |
| Sum | 56800 |  |  |
| Average | 11360 |  |  |
| VLOOKUP | 15000 |  |  |
| IF | High |  |  |

**🧹 Step 3: Data Cleaning (TRIM, CLEAN, Remove Duplicates)**

**1. TRIM + CLEAN**

**💡 Simulate a “dirty” cell:**

* **In a new cell, type:    Apple  (extra spaces & invisible chars)**
* **In next column:**

**=TRIM(CLEAN(A12))**

|  |  |  |  |
| --- | --- | --- | --- |
| Product | Sales | Region | Use if condition |
| Apple | 12000 | Pune | HIGH |
| Banana | 8000 | Mumbai | LOW |
| Mango | 15000 | Pune | HIGH |
| Apple | 12000 | Pune | HIGH |
| Kiwi | 9800 | Delhi | LOW |
| Sum | 56800 |  |  |
| Average | 11360 |  |  |
| VLOOKUP | 15000 |  |  |
| IF | High |  |  |
|  |  |  |  |
| Apple | Apple |  |  |
| MANGO | MANGO |  |  |
| bananna | bananna |  |  |

**2. Remove Duplicates**

🧪 Select range A1:C6  
→ Go to **Data tab → Remove Duplicates**

✅ *One Apple row will be removed*

*Observe how the count of sums,avg etc only changes*

|  |  |  |  |
| --- | --- | --- | --- |
| Product | Sales | Region | Use if condition |
| Apple | 12000 | Pune | HIGH |
| Banana | 8000 | Mumbai | LOW |
| Mango | 15000 | Pune | HIGH |
| Kiwi | 9800 | Delhi | LOW |
|  |  |  | LOW |
| Sum | 44800 |  |  |
| Average | 11200 |  |  |
| VLOOKUP | 15000 |  |  |
| IF | High |  |  |
|  |  |  |  |
| Apple | Apple |  |  |
| MANGO | MANGO |  |  |
| bananna | bananna |  |  |

**3. Text to Columns**

💡 Helpful when you get data like "John Smith" and need to split names.

🧪 Type John Smith into a cell  
→ Select it → Data tab → Text to Columns → Delimited → Space

✅ *It splits into First and Last name*

|  |  |
| --- | --- |
|  |  |
| JOHN | SMITH |
|  |  |

🎨 **Step 4: Conditional Formatting**

**Highlight sales above 10,000**

**🧪 Select range B2:B6 → Home → Conditional Formatting → Highlight Cell Rules → Greater Than → 10000**

**✅ *Cells with sales > 10,000 will be colored***

|  |  |  |
| --- | --- | --- |
| Product | Sales | Region |
| Apple | 12000 | Pune |
| Banana | 8000 | Mumbai |
| Mango | 15000 | Pune |
| Kiwi | 9800 | Delhi |
|  |  |  |

**BONUS**

**1)** **Try sorting by Region or Sales (Data tab → Sort)**

|  |  |  |
| --- | --- | --- |
| Product | Sales | Region |
| Kiwi | 9800 | Delhi |
| Banana | 8000 | Mumbai |
| Apple | 12000 | Pune |
| Mango | 15000 | Pune |
|  |  |  |

**2)** **Add a filter to the table (Home → Filter)**

**Day 2: Pivot Tables + Charts**

**What is a Pivot Table?**

A Pivot Table is a powerful Excel tool that lets you quickly summarize, analyze, and explore large data sets. You can group, filter, and aggregate data with just a few clicks, revealing trends and insights that are hard to see in raw tables

**How to Create a Pivot Table (Step-by-Step)**

1. **Prepare Your Data**

2.**Select Your Data**

**>Click any single cell inside your data set.**

**3.Insert Pivot Table**

* **>Go to the “Insert” tab.**
* **Click “PivotTable” in the Tables group.**
* **In the dialog box, Excel will auto-select your data range.**
* **Choose “New Worksheet” (recommended) and click OK**

**4.Understand Pivot Table Fields**

**On the right, you’ll see PivotTable Fields with four main areas:**

* **Rows: Drag a field here to group data by that column (e.g., Product, Region).**
* **Columns: Drag a field here for column-wise grouping (e.g., Month).**
* **Values: Drag numeric fields here (e.g., Sales) to aggregate (sum, count, average).**
* **Filters: Drag a field here to filter the whole table (e.g., Year)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sales | (All) |  |  |  |
|  |  |  |  |  |
| **Sum of Sales** | **Column Labels** |  |  |  |
| **Row Labels** | **Mumbai** | **Pune** | **Grand Total** |  |
| Apple |  | 24000 | 24000 |  |
| Banana | 8000 |  | 8000 |  |
| Mango |  | 15000 | 15000 |  |
| **Grand Total** | **8000** | **39000** | **47000** |  |
|  |  |  |  |  |
|  |  |  |  |  |

**Try These:**

* Show total sales by Product.
  + Drag “Product” to Rows, “Sales” to Values.

|  |  |
| --- | --- |
| **Row Labels** | **Sum of Sales** |
| Apple | 24000 |
| Banana | 8000 |
| Mango | 15000 |
| **Grand Total** | **47000** |

* Show total sales by Region.
  + Drag “Region” to Rows, “Sales” to Values.

|  |  |
| --- | --- |
| **Row Labels** | **Sum of Sales** |
| Mumbai | 8000 |
| Pune | 39000 |
| **Grand Total** | **47000** |
|  |  |

* Show sales by Product and Region.
  + “Product” to Rows, “Region” to Columns, “Sales” to Values.

|  |  |  |  |
| --- | --- | --- | --- |
| **Sum of Sales** | **Column Labels** |  |  |
| **Row Labels** | **Mumbai** | **Pune** | **Grand Total** |
| Apple |  | 24000 | 24000 |
| Banana | 8000 |  | 8000 |
| Mango |  | 15000 | 15000 |
| **Grand Total** | **8000** | **39000** | **47000** |

* Add a filter for Product or Region.

|  |  |
| --- | --- |
| Region | (All) |
|  |  |
| **Row Labels** | **Sum of Sales** |
| Apple | 24000 |
| Banana | 8000 |
| Mango | 15000 |
| **Grand Total** | **47000** |

**Tip:** You can change the aggregation (sum, count, average) by clicking the drop-down in the Values area and selecting “Value Field Settings”

**How to Make Charts from Pivot Tables**

1. **Click anywhere inside your Pivot Table.**
2. **Go to the “Insert” tab.**
3. **Choose a chart type (Bar, Line, Pie, etc.).**