

## 5 B Microsoft Excel and create the Pivot table and Pivot Chart to perform data analysis

Consider the database in excel as:

Data Link: [https://docs.google.com/spreadsheets/d/1z6WYIJT36tahArZtBvESCi96voqKhZq8/edit?usp=drive\\_link&oid=110789261263407953086&rtpof=true&sd=true](https://docs.google.com/spreadsheets/d/1z6WYIJT36tahArZtBvESCi96voqKhZq8/edit?usp=drive_link&oid=110789261263407953086&rtpof=true&sd=true)

First Name	Last Name	Roll Number	Email Address	Teacher Na	Subject1	Subject2	Subject3	Total Marks.
John	Henry	1	<a href="mailto:sample1@gmail.com">sample1@gmail.com</a>	ABC	68	88	69	225.00
Mary	Newton	2	<a href="mailto:sample2@gmail.com">sample2@gmail.com</a>	XYZ	69	68	64	201.00
Bill	Gates	3	<a href="mailto:sample3@gmail.com">sample3@gmail.com</a>	LMN	87	69	68	224.00
Samson	Roy	4	<a href="mailto:sample4@gmail.com">sample4@gmail.com</a>	ABC	69	87	69	225.00
Roy	Thomas	5	<a href="mailto:sample1@gmail.com">sample1@gmail.com</a>	XYZ	64	66	87	217.00
Amit	Jain	6	<a href="mailto:sample2@gmail.com">sample2@gmail.com</a>	LMN	64	87	68	219.00
Rakesh	Chaoube	7	<a href="mailto:sample3@gmail.com">sample3@gmail.com</a>	ABC	68	69	69	206.00
Ramesh	Nike	8	<a href="mailto:sample4@gmail.com">sample4@gmail.com</a>	XYZ	87	64	87	238.00
Ritu	More	9	<a href="mailto:sample1@gmail.com">sample1@gmail.com</a>	LMN	69	68	87	224.00
Pintu	Patil	10	<a href="mailto:sample2@gmail.com">sample2@gmail.com</a>	XYZ	64	69	69	202.00

### Solution:

#### What is a Pivot Table?

- A pivot table is a powerful feature in Microsoft Excel that allows users to **summarize and analyze** large amounts of data quickly and easily.
- With pivot tables, **users can sort, filter, and rearrange data** based on specific criteria, making it easier to identify trends and patterns in their data.
- Pivot tables are **highly customizable**, allowing users to select the data they want to analyze and manipulate it in various ways, such as creating calculations and adding custom fields.

#### What is a Pivot Chart?

- A pivot chart is a **graphical representation of data** created from a pivot table in Microsoft Excel.
- Pivot charts allow users to **visualize and analyze data** in a more **engaging and interactive way** than traditional tables and charts.
- With pivot charts, users can quickly and easily create charts and graphs from their pivot table data, such as **bar charts, line graphs, and pie charts**.
- Pivot charts are **highly customizable**, allowing users to change the chart type, add or remove chart elements, and format the chart to their specific needs.

### Solution:

#### Steps to create Pivot table in Excel

1. Select the data range that contains your data (including the headers). In this case, click on the cell containing "First Name" and drag to the cell containing "Total Marks" to select the entire range.
2. Go to the "Insert" tab in the ribbon. This is located at the top of the Excel window.

3. Click on "PivotTable" in the "Tables" group. This will open the "Create PivotTable" dialog box.
4. In the "Create PivotTable" dialog box, make sure that the correct range is selected in the "Table/Range" field. This should be the range you selected in step 1.
5. Choose where you want to place the pivot table. You can either place it in a new worksheet or in an existing one. Select your preferred option by clicking the corresponding radio button.
6. Click on "OK" to create the pivot table. This will create a blank pivot table with a "PivotTable Fields" pane on the right.
7. In the pivot table field list, drag and drop the "First Name", "Last Name", "Roll Number", "Email Address", "Teacher Name", "Subject1", "Subject2", and "Subject3" fields into the "Rows" section. This will add these fields as row labels in the pivot table.
8. Drag and drop the "Total Marks" field into the "Values" section. This will add this field as a value to be calculated in the pivot table.
9. By default, the pivot table will show the sum of the total marks. If you want to change this to another function, such as average or count, you can click on the dropdown arrow next to "Sum of Total Marks" in the "Values" section, select "Value Field Settings", and choose the desired function. This will open a dialog box where you can select the calculation you want to perform on the data.
10. Your pivot table is now ready! You can use the filter and sort options to further analyze your data. For example, you can click on the dropdown arrow next to a row label to filter the pivot table based on that value, or you can click on a column header to sort the pivot table by that field.

### **Steps to create Pivot Chart:**

1. Select the data range that contains your data (including the headers). In this case, select the range from "First Name" to "Total Marks".
2. Go to the "Insert" tab in the ribbon.
3. Click on the chart type that you want to create in the "Charts" group. For example, if you want to create a column chart, click on the "Column" button and select the chart subtype that you want to use.

4. Excel will automatically create a chart based on your data range. By default, it will be placed on the same worksheet as your data. You can move the chart to a new worksheet or a different location on the same worksheet by clicking and dragging it.
5. To customize the chart, you can click on any part of it to select it. This will bring up the "Chart Tools" tabs in the ribbon. You can use these tabs to modify the chart in a variety of ways. For example, you can change the chart type, add a title or labels, change the chart colors, or adjust the chart layout.
6. To add or remove data from the chart, you can right-click on the chart and select "Select Data". This will open the "Select Data Source" dialog box, where you can add or remove series, edit the series names or values, or change the chart data range.
7. Now the chart is ready...! You can use it to visualize and analyze your data. To update the chart with new data, simply edit the data range and Excel will automatically update the chart accordingly.

#### **Use of filters, rows, columns, and values in a pivot table:**

**Filters:** Filters are used to limit the data that is displayed in the pivot table. You can use filters to exclude certain values, only show specific data ranges, or include only certain categories.

**Rows:** Rows are used to group the data in the pivot table along the vertical axis. Each row represents a unique category or value that is being analyzed.

**Columns:** Columns are used to group the data in the pivot table along the horizontal axis. Each column represents a unique category or value that is being analyzed.

**Values:** Values are the data points that are being analyzed in the pivot table. These can be numerical values, percentages, or other types of data. Pivot tables use mathematical functions, such as sum or average, to calculate these values based on the data in the rows and columns.