

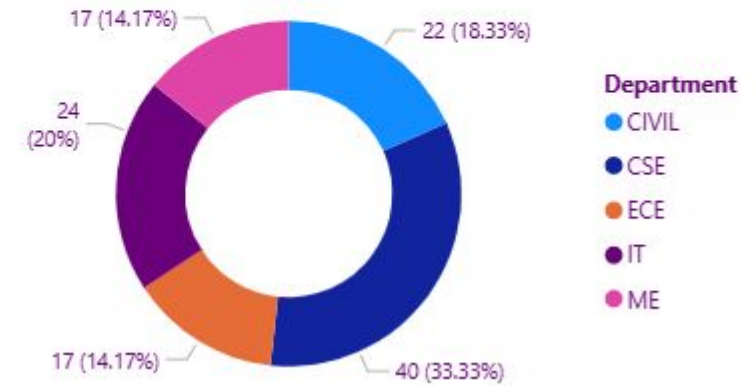
Foundation for Power BI

Dr. Akanksha Upadhyaya
Associate Professor
JIMS, sector-5, Rohini, Delhi

Student Performance Overview

StudentName	SubjectName	Average of Score	Average of Attendance	Grade
RONALD NELSON	Mathematics	100.00	64.00	A
ELIZABETH GARCIA	Mathematics	99.00	96.00	A
EMILY GRIFFITH	Communication Skills	99.00	85.00	A
GABRIELLE WILLIAMS	Programming	99.00	62.00	A
HANNAH WATKINS	Data Structures	99.00	74.00	A
MARY GENTRY	Mathematics	99.00	77.00	A
MICHAEL MONTGOMERY	Communication Skills	99.00	66.00	A
RUBEN ROSS	Communication Skills	99.00	61.00	A
RUBEN ROSS	Mathematics	99.00	70.00	A
SARAH DAVIS	Programming	99.00	72.00	A
SHELBY LUNA	Physics	99.00	98.00	A
Total		68.46	80.01	

Total Students by Department



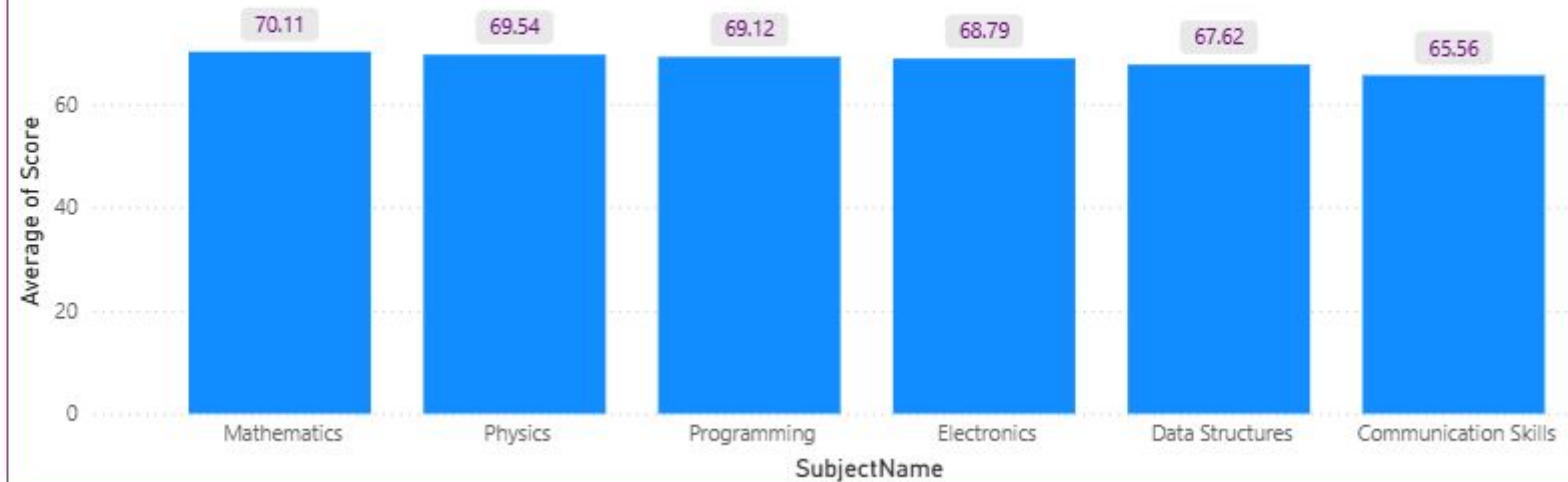
Total Subjects

6

Total Students

120

Average of Score by SubjectName



What is Power BI?

It is a **business analytics** and **data visualization** tool by **Microsoft**.

Its purpose is to connect to many data sources, clean and transform data, and then create interactive reports and dashboards so, you (and others) can see and understand what your data is saying.

Why Power BI is better than Excel?

- Power BI can manage millions of rows smoothly; Excel becomes slow.
- Charts in Power BI are clickable and dynamic; Excel charts are mostly static.
- Power BI can auto-update dashboards from live data sources; Excel needs manual refresh.
- Power BI connects to databases, cloud services, APIs, etc.; Excel has limited connectivity.
- Power BI has better data cleaning tools like it has Power Query that makes data transformation easy.
- Power BI offers more advanced visuals (maps, gauges, custom charts) than Excel.
- Dashboards can be shared online with teams; Excel sharing is less smooth.

Excel is good for calculations; Power BI is better for analysis and dashboards.

Power BI Components

1. Power BI Desktop – free to download

- A Windows application
- Used to import, clean, and visualize data
- You create reports here
- Works offline on your computer

2. Power BI Service (Power BI Online) – pay to use the services






- A cloud-based platform
- You publish, share, and view dashboards online
- Supports collaboration with teams
- Allows scheduled data refresh

Power BI Desktop Installation


Best match

 Microsoft Store
System

Search the web






-  microsoft store - See more search results >
-  microsoft store **download** >
-  microsoft store **update** >
-  microsoft store **app** >
-  microsoft store **download windows 10** >

Settings

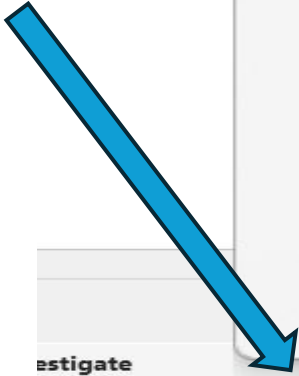
 Find and fix problems with Microsoft Store Apps >



Microsoft Store
System

-  Open
-  Apps
-  Gaming
-  Updates & downloads
-  Library

Search for Microsoft Store from desktop start menu



Investigate

Notes



Apps



Gaming



What's New



Downloads



Library

"power bi desktop"

Filters

All departments

Apps

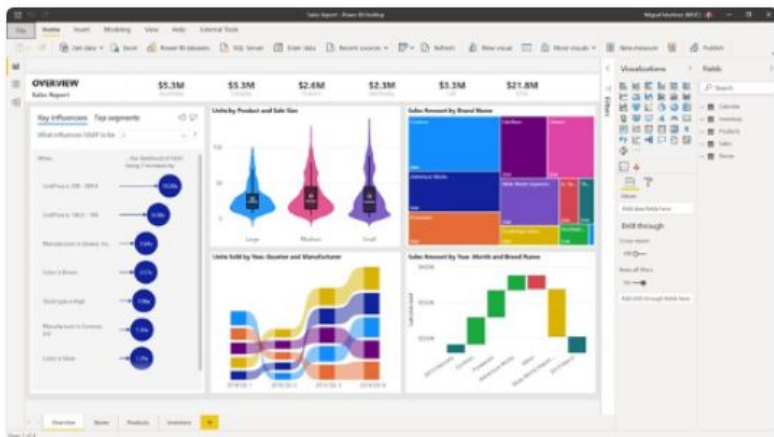
Games



Power BI Desktop
4.8 ★ Apps Business

Open

Power BI Desktop puts visual analytics at your fingertips. With this powerful authoring tool, you can create interactive data visualizations and reports.



Power BI Report Builder
4.6 ★ Apps Business

Free

Power BI Report Builder is part of the Power BI product suite. Use Power BI Report Builder to create and publish paginated report content to be...



Project Plan 365
4.7 ★ Apps Business

Free

Project Plan 365 is the only solution that enables you to edit and save native Microsoft Project MPP files directly, thereby eliminating the need...

Looks and feels just like MS Project!



Power Planner
4.4 ★ Apps Education

Free

Power Planner is the ultimate homework planner for students, featuring online sync with iOS and Android apps, grade calculation, automatic...



Another way to download..

Search for Power BI desktop download



power bi desktop download



All Videos Images Shopping Short videos Forums More Tools



Microsoft

<https://www.microsoft.com> > en-us > download > details

Download Microsoft Power BI Desktop from Official ...

System Requirements ... Microsoft Power BI Desktop requires Internet Explorer 10 or greater.

Microsoft Power BI Desktop is available for 64-bit (x64) platforms.

Centro de Download

Microsoft Power BI Desktop · Detalhes. Versão: 2.148.1477 ...

下載中心

Microsoft Power BI Desktop. Microsoft Power BI Desktop 專 ...

[More results from microsoft.com »](#)



Microsoft

<https://www.microsoft.com> > power-platform > products

Power BI Desktop

Power BI Desktop. Create rich, interactive reports with visual analytics at your fingertips—for free.

Download now [Advanced download options](#). [Product overview](#).

People also ask :

Can I download Power BI desktop for free?

Click on the link

Imagine. Create. Accomplish.

Microsoft 365 delivers cloud storage, advanced security, and Microsoft Copilot in your favorite apps—all in one plan.

[Shop Microsoft 365](#)



Microsoft Power BI Desktop

Microsoft Power BI Desktop is built for the analyst. It combines state-of-the-art interactive visualizations, with industry-leading data query and modeling built-in. Create and publish your reports to Power BI. Power BI Desktop helps you empower others with timely critical insights, anytime, anywhere.

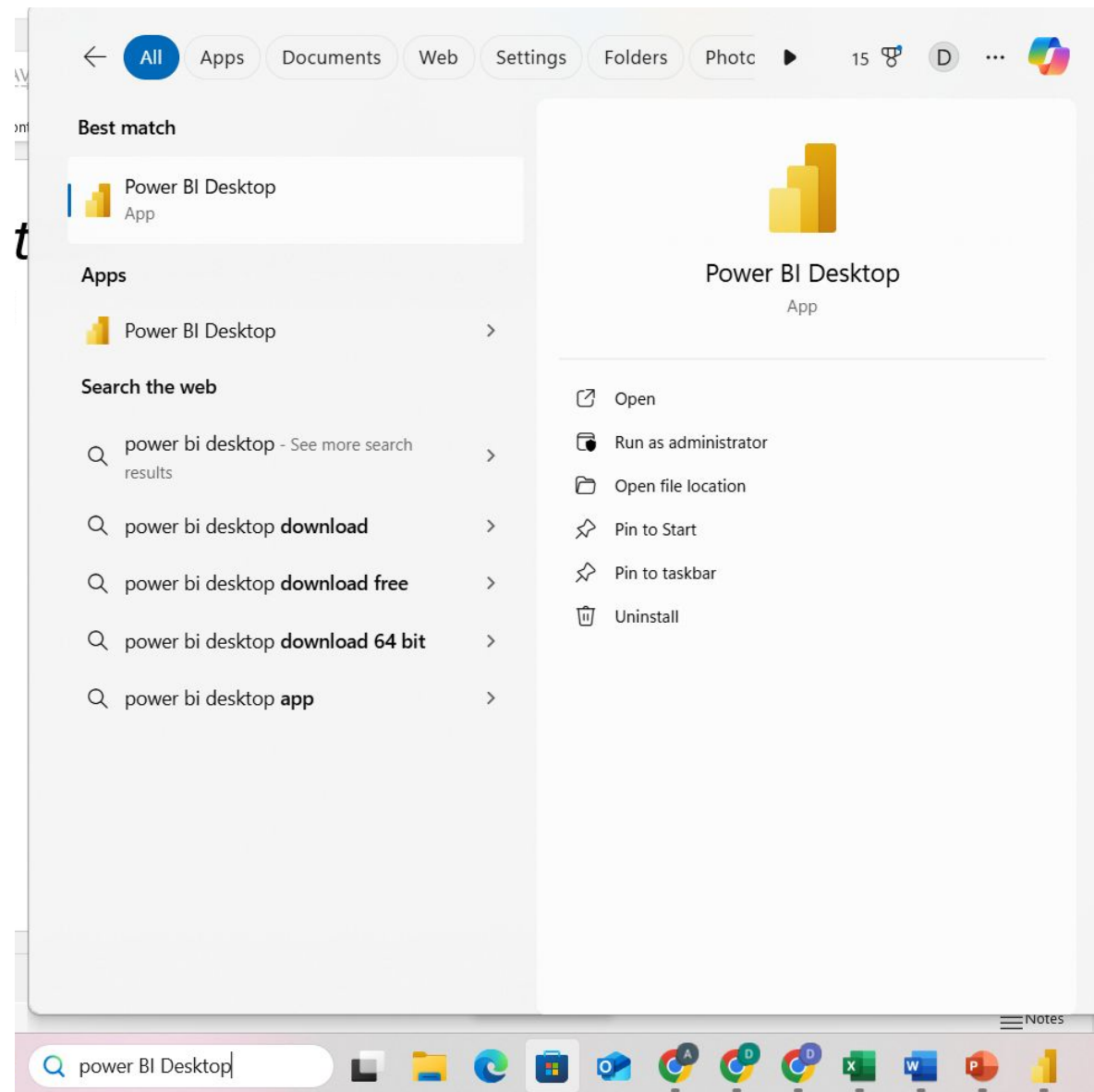
[Click to download](#)

Important! Selecting a language below will dynamically change the complete page content to that language.

Select language

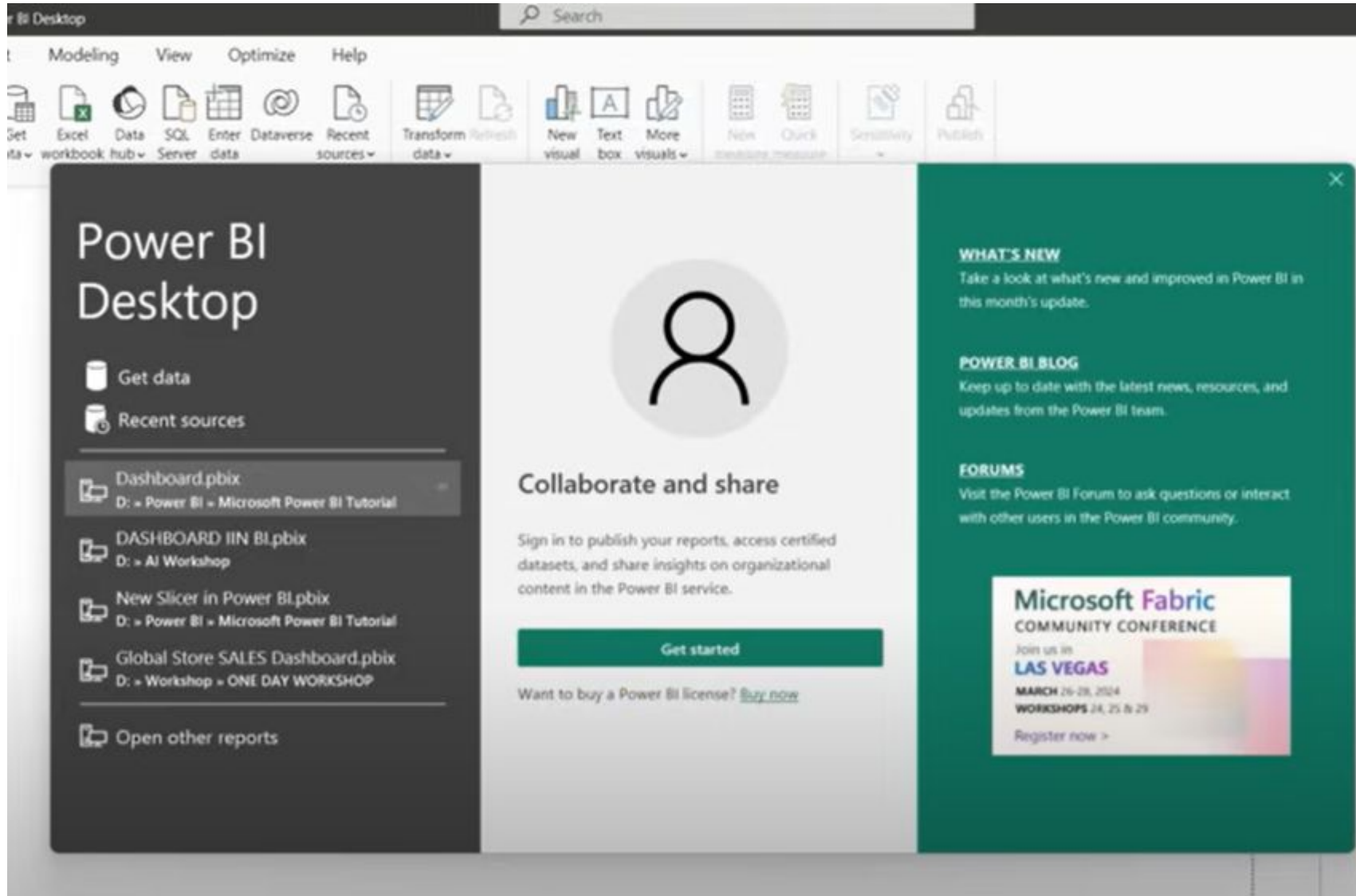
[Download](#)

Once Installed, you can search from Search bar of windows



Understanding Power BI Interface

Sign-in window



- Required if you want to use the services of Power BI.
- For sign in Business email ID is required. Provides 2 months free services.
- Not required for own system/offline desktop version.

Home

Open

Sign in

Options and settings

About

Select a data source or start with a blank report

Blank report

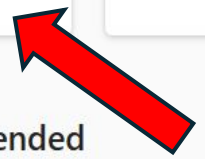
OneLake data hub

Excel workbook

SQL Server

Learn with sample data

Get data from other sources



Click here

Recommended

Getting started

Intro—What is Power BI? [🔗](#)

Recent

Shared with me

Filter by keyword

Filter



File Home Insert Modeling View Optimize Help

Paste Cut Copy Format painter Clipboard

Get data Excel OneLake SQL Server Enter data Dataverse Recent sources

Transform data Refresh Queries

New visual Text box More visuals Insert

New visual calculation New measure Quick measure Calculations

Sensitivity Publish Copilot

Share Copilot

Title bar

Add data to your report

Once loaded, your data will appear in the Data pane.

Import data from Excel

Import data from SQL Server

Paste data into a blank table

Use sample data

Get data from another source →

Visualizations

Build visual

Filters

Values

Add data fields here

Drill through

Cross-report Off

Keep all filters On

Add drill-through fields here

Canvas

File Home Insert Modeling View Optimize Help

Clipboard | **Data** | **Queries** | **Insert** | **Calculations** | **Sensitivity** | **Share** | **Copilot**

Home ribbon items: Paste, Copy, Format painter, Get data, Excel workbook, OneLake data hub, SQL Server, Enter data, Dataverse, Recent sources, Transform data, Refresh, New visual, Text box, More visuals, New visual calculation, New measure, Quick measure, Sensitivity, Publish, Copilot.

← Tabs

↕ Ribbon

Add data to your report

Once loaded, your data will appear in the **Data** pane.

[Get data from another source →](#)

Visualizations | **Filters** | **Data**

Build visual

Values: Add data fields here

Drill through: Cross-report (Off), Keep all filters (On)

Add drill-through fields here

File Home Insert Modeling View Optimize Help

Clipboard: Paste, Cut, Copy, Format painter

Data: Get data, Excel workbook data hub, OneLake, SQL Server, Enter data, Dataverse, Recent sources

Queries: Transform data, Refresh

Insert: New visual, Text box, More visuals

Calculations: New visual calculation, New measure, Quick measure

Sensitivity: Sensitivity

Share: Publish

Copilot: Copilot

1. Report View
2. Table View
3. Model View
4. DAX Query

Options under Home tab

Add data to your report

Once loaded, your data will appear in the Data pane.

Import data from Excel

Import data from SQL Server

Paste data into a blank table

Use sample data

Get data from another source →

- Layout:
1. Desktop
2. Mobile

Add as many as pages

Visualizations

Build visual

Filters

Values: Add data fields here

Drill through: Cross-report (Off), Keep all filters (On)

Add drill-through fields here

Page 1 +

File Home Insert Modeling View Optimize Help

Paste Cut Copy Format painter Clipboard

Get data Excel workbook data hub OneLake SQL Server Enter data Dataverse Recent sources

Transform data Refresh Queries

New visual Text box More visuals Insert

New visual calculation New measure Quick measure Calculations

Sensitivity Publish Copilot

Visualizations

Build visual

Filters

Data

Use double arrows to expand or collapse the panes

Add data to your report

Once loaded, your data will appear in the Data pane.

Import data from Excel

Import data from SQL Server

Paste data into a blank table

Use sample data

Get data from another source →

Zoom in or out the canvas area

Values

Add data fields here


Drill through

Cross-report Off


Keep all filters On

Add drill-through fields here


Add data to your report
Once loaded, your data will appear in the **Data** pane.




Import data from Excel



Import data from SQL Server



Paste data into a blank table



Use sample data

Get data from another source →

Filter pane

Filters

Search

Filters on this page

Add data fields here


Filters on all pages

Add data fields here

Visualization pane

Visualizations

Build visual



Values

Add data fields here

Drill through

Cross-report Off

Keep all filters On

Add drill-through fields here

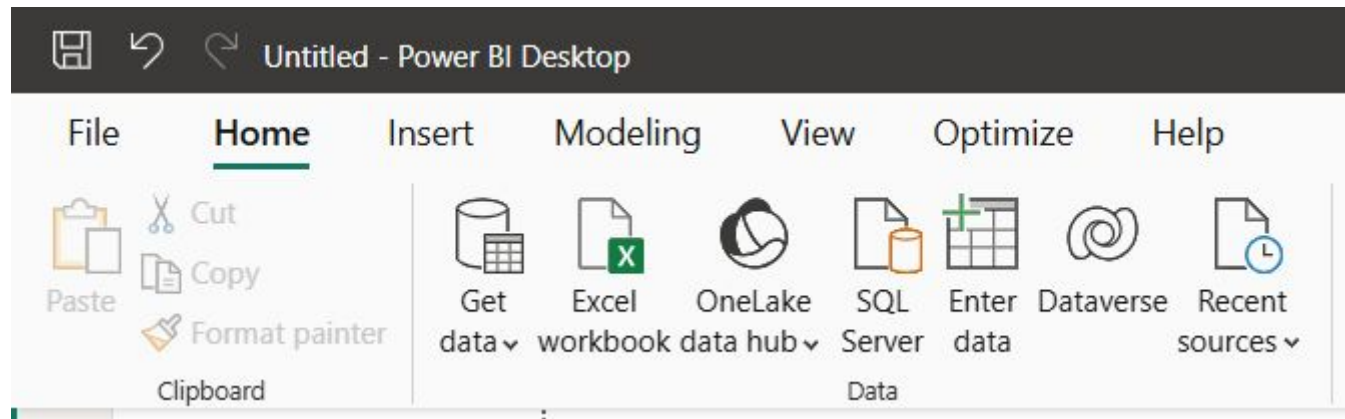
Data pane

Data

Search

You haven't loaded any data yet. [Get data](#)

Import Data in Power BI



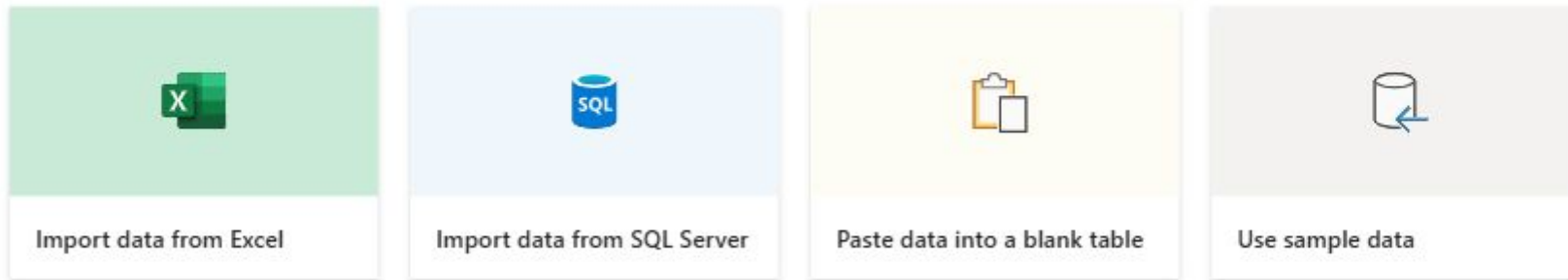
Available in Ribbon under Home tab

OR

Add data to your report

Once loaded, your data will appear in the Data pane.

Available within canvas area



Get data from another source →

Four things to do in power BI

- During Data import operation, transform the data using **POWER QUERY**
- Data Modeling known as **Power Pivot**
- **Power view** or Data Visualization
- **Power BI services**

Hands on – Creating a Dashboard

Power Query – Data Transformation

- Change Student Name to uppercase ([Students Table](#))

Select column □ Transform Tab □ Text Column □ Format □ click Dropdown and select Uppercase

- Change Department abbreviation to uppercase ([Students Table](#))

Select column □ Transform Tab □ Text Column □ Format □ click Dropdown and select Uppercase

- Change Date of joining to Date only ([Students Table](#))

Select column □ Transform Tab □ Date & Time Column □ click dropdown and select Date only

- Column Headers ([Subjects Table](#))

Home Tab □ Transform option □ click use first row as headers

Building Visuals on Canvas

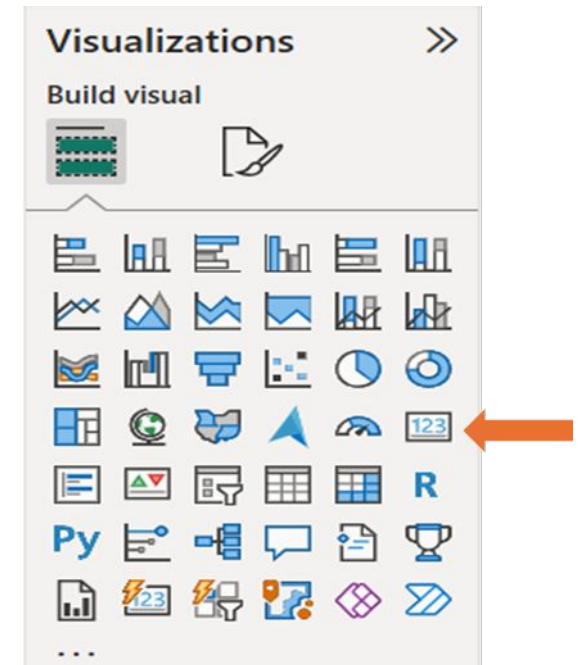
Visuals for the Dashboard

- Card → Total Students, Subjects
- Clustered Column Chart → Avg Score by Subject
- Donut Chart → Students by Department
- DAX Query Grade (New Column in Scores table)
- Table → Student Name | Subject Name | Avg Score | Avg Attendance | Grade

CARDS

To display:

1. Total number of Students
2. Total number of Subjects



Cards

- Insert Cards for **Total number of Students** and **total number of subjects**
 - Add **subject name/subjectID** in the **Fields** and change it to **count** from dropdown ([Build Visuals](#))
 - Add **StudentName/StudentID** in the **Fields** and change it to **count** from dropdown ([Build Visuals](#))
- Change **call out value** colour ([Format Visuals](#) [Visual](#))
- Off **call out category** ([Format Visuals](#) [Visual](#))
- **On Title** and **add title text** “Total number of students” ([Format Visuals](#) [General](#))
- Change **card background colour** under Effects background feature ([Format visuals](#) [General](#))
- Turn **on visual borders** under Effects to give border to the card ([Format visuals](#) [General](#))

Total Number of Subjects

6

Total Number of Students

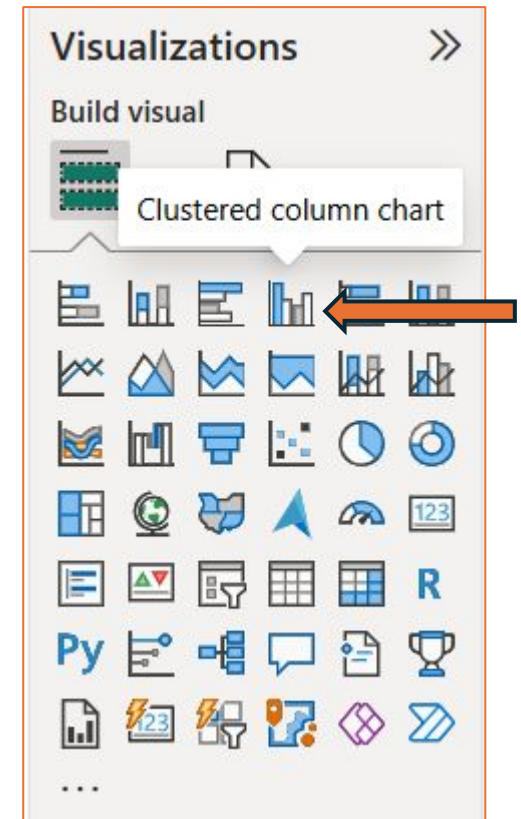
120

Canvas view after adding the cards and performing the steps

CLUSTERED COLUMN CHART

To display:

1. Average Score by Subject



Clustered Column Chart

- Insert Clustered column chart on canvas by double clicking or drag and drop.
 - Add **subject name** in the **X-axis** and **score** in **Y-axis** ([Build Visuals](#))
 - Click on **dropdown** of **Y-axis** and change it to **Average** ([Build Visuals](#))
- Turn on **Data Labels** and
 - **Turn On Background** under **Data labels**
 - **Change the colour** of text using **Value feature** under **Data labels** ([Format Visuals](#) [Visual](#))
- **Turn On Title**, add **title text** “Average Score by Subject Name” , and change the **colour**([Format Visuals](#) [General](#))
- Turn on **visual borders** under **Effects** to give border to the chart ([Format visuals](#) [General](#))

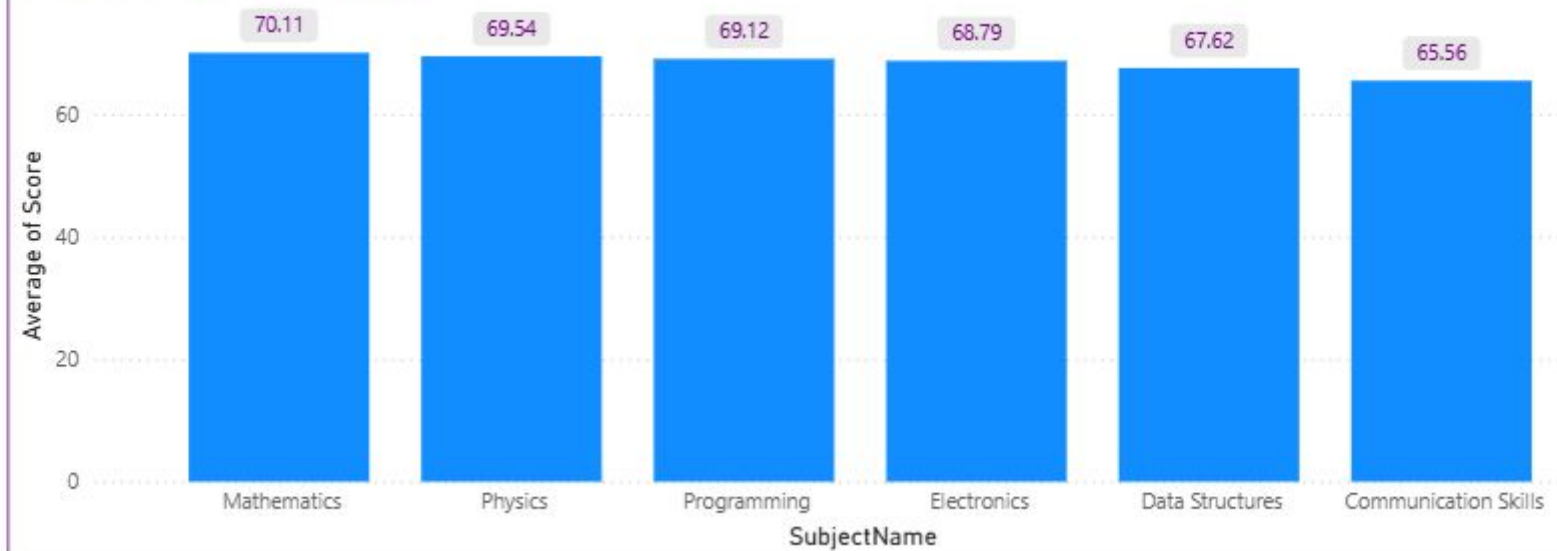
Total Number of Subjects

6

Total Number of Students

120

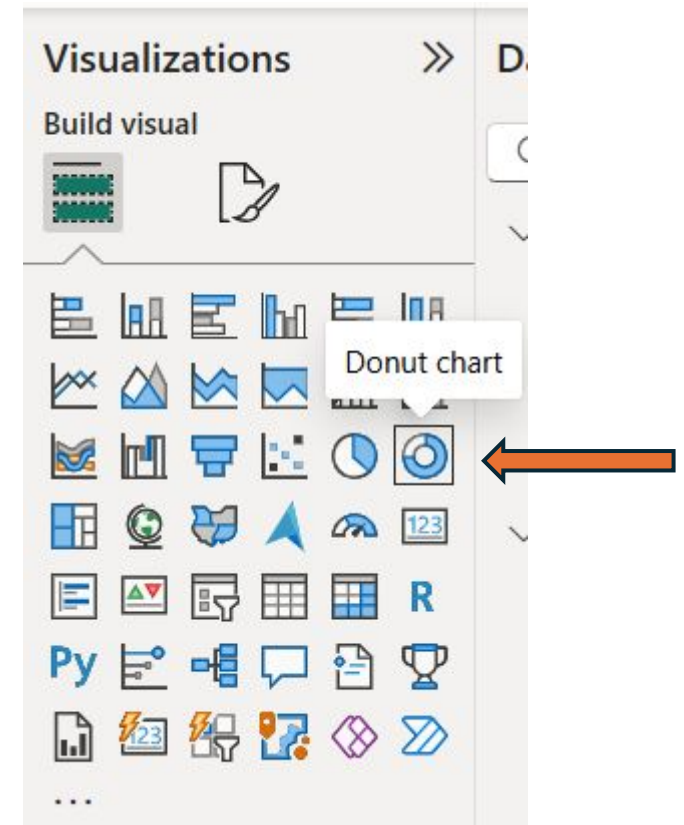
Average Score by SubjectName



DONUT CHART

To display:

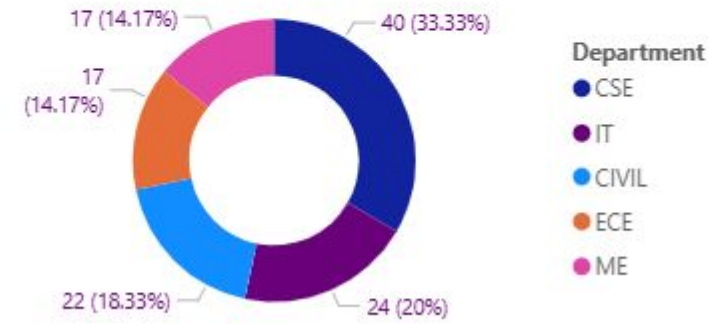
1. Students by Department



Donut Chart

- Insert Donut chart on canvas by double clicking or drag and drop.
 - Add **Department** in the **Legend** and **StudentID/StudentName** in **Values** ([Build Visuals](#))
- **Change the colour** of values using Values feature under **Detail labels** ([Format Visuals](#) [Visual](#))
- **Turn On Title, add title text** “Total students by department” , and change the **colour**([Format Visuals](#) [General](#))
- Turn **on visual borders** under Effects to give border to the chart ([Format visuals](#) [General](#))

Total Students by Department



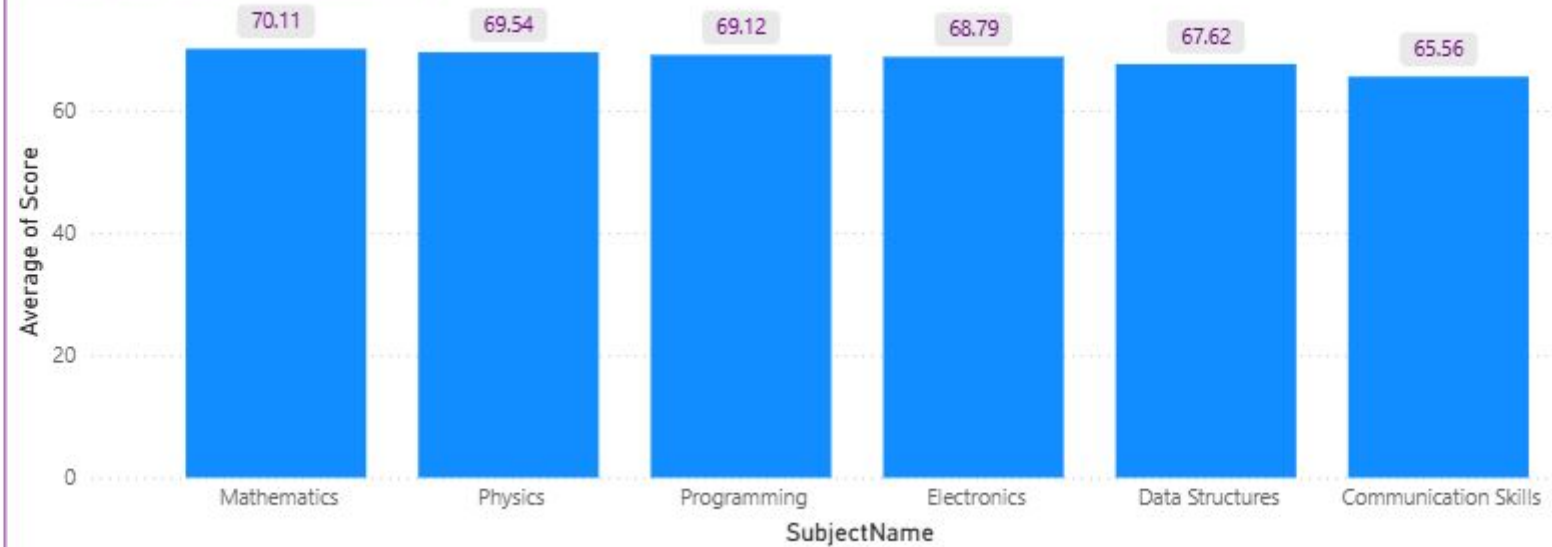
Total Number of Subjects

6

Total Number of Students

120

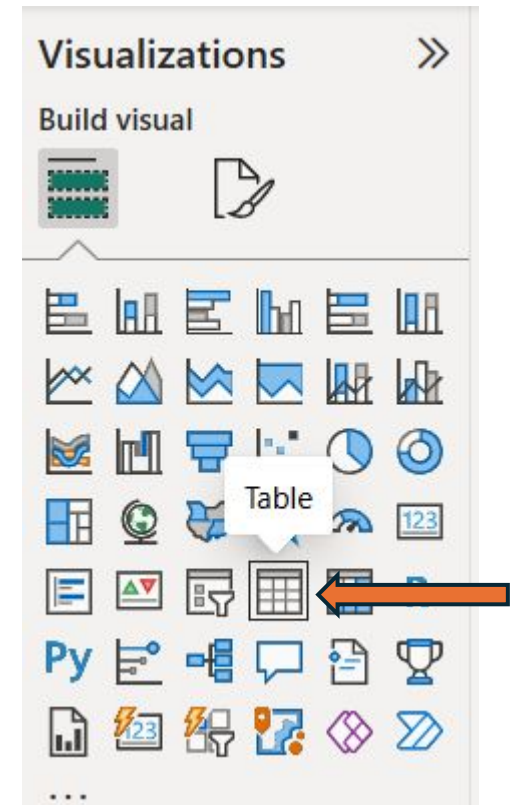
Average Score by SubjectName



Table

To display:

1. Student Name | Subject Name | Avg Score | Avg Attendance | Grade



Use DAX Query to add **GRADE** Column

- Before adding Table visual on canvas add new column – **GRADE**
Assign grade based on **Score** or **Percentage**:

Range	Grade
≥ 80	A
60–79	B
40–59	C
< 40	Fail

Use DAX Query to add GRADE Column

Follow these steps:

- 1) Click on **Data View** from the left-hand side panel.
- 2) Select the table **Scores** where our marks data is stored.
- 3) Go to the **Modeling** tab in the top ribbon and click **New Column**.
- 4) In the formula bar, type the following DAX code to create the Grade column:

Grade =

IF(Scores[Score] >= 80, "A",

IF(Scores[Score] >= 60, "B",

IF(Scores[Score] >= 40, "C", "Fail")

)

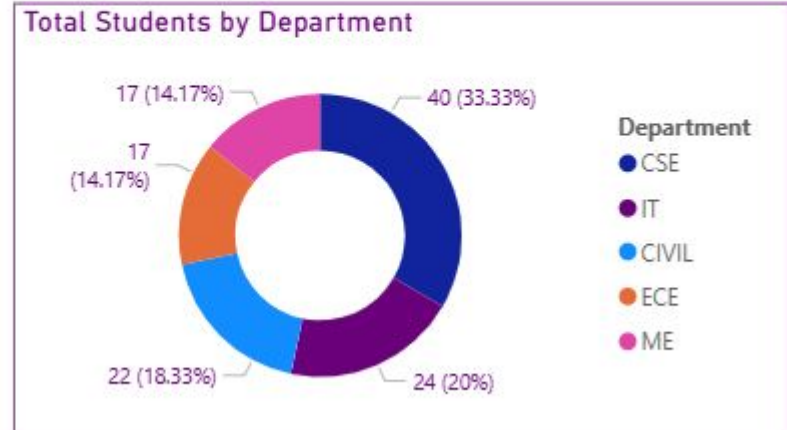
)

- 5) Press **Enter** and you will now see a new column named **Grade**, which assigns grade automatically based on marks.

Table

- Insert Table on canvas by double clicking or drag and drop.
 - Add **StudentName, SubjectName, Average Score, Average Attendance, Grade in the Columns.** (Build Visuals)
- Turn on Vertical grid lines and Horizontal Grid lines and change the color under Grid (Format Visuals Visual)
- Click on **Grid****Border**check all the **border position**(Format Visuals Visual)
- Click on **Column Headers** and **change the color, make it bold** (Format Visuals Visual)
- Turn **on visual borders** under Effects to give border to the chart (Format visuals General)

StudentName	SubjectName	Average of Score	Average of Attendance	Grade
AARON LANE	Communication Skills	76.00	69.00	B
ABIGAIL AGUILAR	Communication Skills	80.00	92.00	A
ABIGAIL STOKES	Communication Skills	72.00	78.00	B
ADAM KENNEDY	Communication Skills	69.00	74.00	B
ALAN POOLE	Communication Skills	78.00	86.00	B
ALEXANDER NORMAN	Communication Skills	97.00	64.00	A
ALYSSA CLARK	Communication Skills	53.00	61.00	C
AMANDA PETERSON	Communication Skills	45.00	63.00	C
ANGELA NGUYEN	Communication Skills	55.00	65.00	C
Total		68.46	80.01	

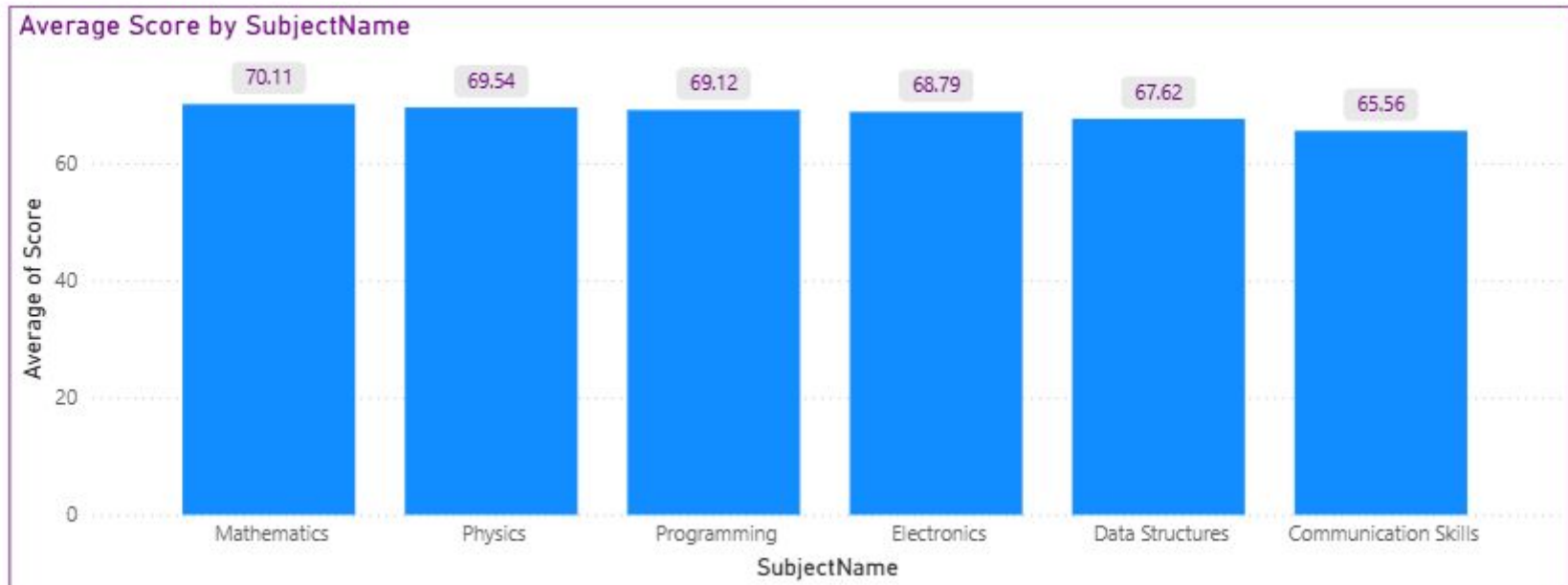


Total Number of Subjects

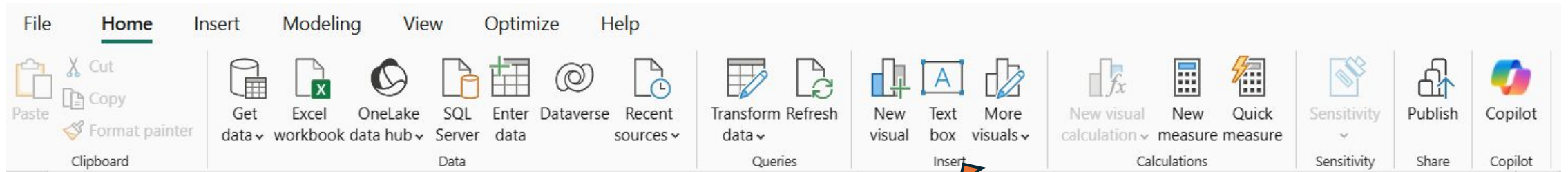
6

Total Number of Students

120



Insert Dashboard Title



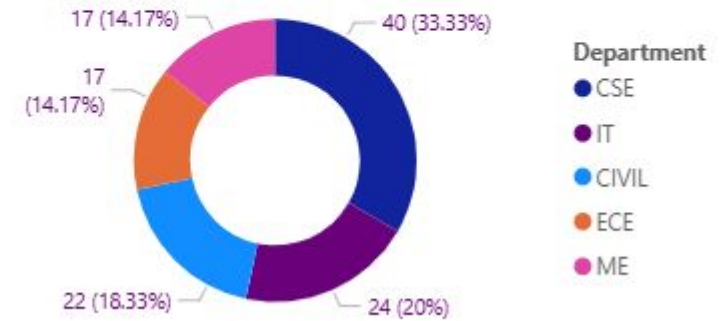
Dashboard Title

- Insert Text box from Home Tab Insert option
- Write the title of the dashboard in the text box, change the color, size and make it bold using textbox feature just below the inserted Textbox.
- Turn **on visual borders** under Effects to give border to the chart ([Format visuals](#) [General](#))

Student Performance Overview

StudentName	SubjectName	Average of Score	Average of Attendance	Grade
AARON LANE	Communication Skills	76.00	69.00	B
ABIGAIL AGUILAR	Communication Skills	80.00	92.00	A
ABIGAIL STOKES	Communication Skills	72.00	78.00	B
ADAM KENNEDY	Communication Skills	69.00	74.00	B
ALAN POOLE	Communication Skills	78.00	86.00	B
ALEXANDER NORMAN	Communication Skills	97.00	64.00	A
ALYSSA CLARK	Communication Skills	53.00	61.00	C
AMANDA PETERSON	Communication Skills	45.00	63.00	C
ANGELA NGUYEN	Communication Skills	55.00	65.00	C
Total		68.46	80.01	

Total Students by Department



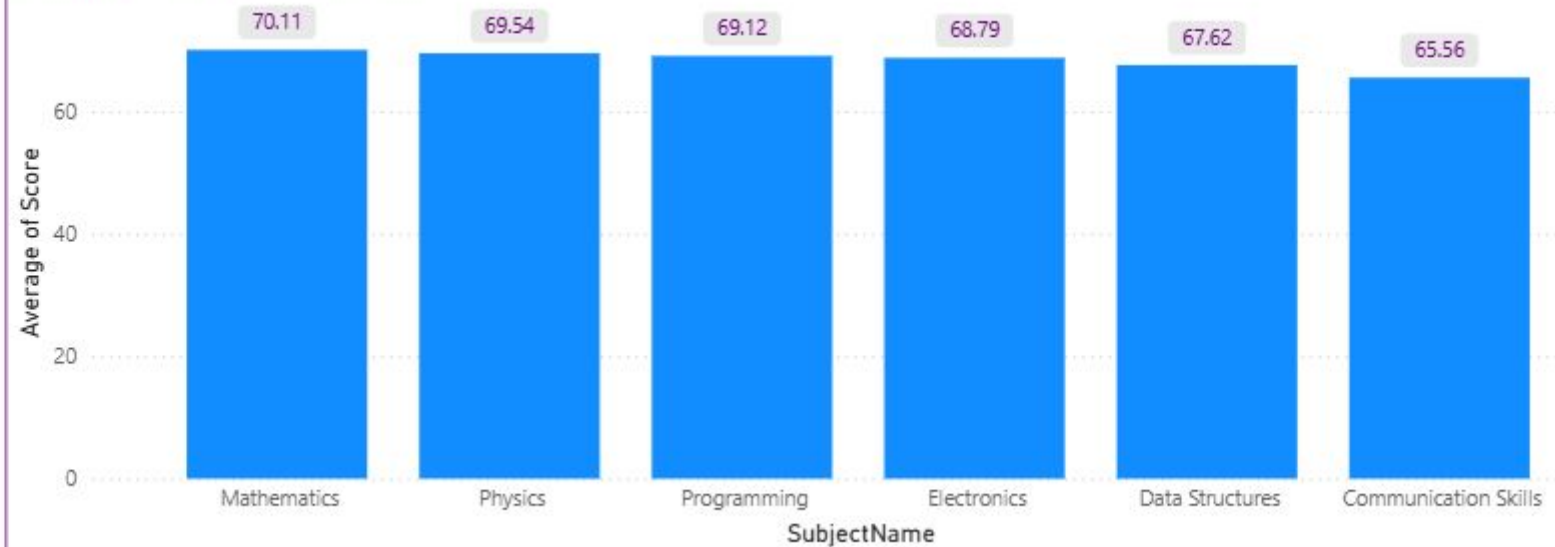
Total Number of Subjects

6

Total Number of Students

120

Average Score by SubjectName



*Thank
you!*