

Name: Pratham Yadav

PRN: 2020BTEIT00006

Subject: Data Mining Lab

## Experiment No. 1

**Title:-** Study and use of different types of graphs and charts (use MS-XLS).

**Aim:-** To study and use different types of graphs and charts (use MS-XLS).

**Line chart-** In a line chart, category data is distributed evenly along the horizontal axis, and all value data is distributed evenly along the vertical axis. Line charts can show continuous data over time on an evenly scaled axis, so they're ideal for showing trends in data at equal intervals, like months, quarters, or fiscal years.

Price from 2000-	2023
Year	Gold Price
2000	Rs.4,400.00
2001	Rs.4,300.00
2002	Rs.4,990.00
2003	Rs.5,600.00
2004	Rs.5,850.00
2005	Rs.7,000.00
2007	Rs.10,800.00
2008	Rs.12,500.00
2009	Rs.14,500.00

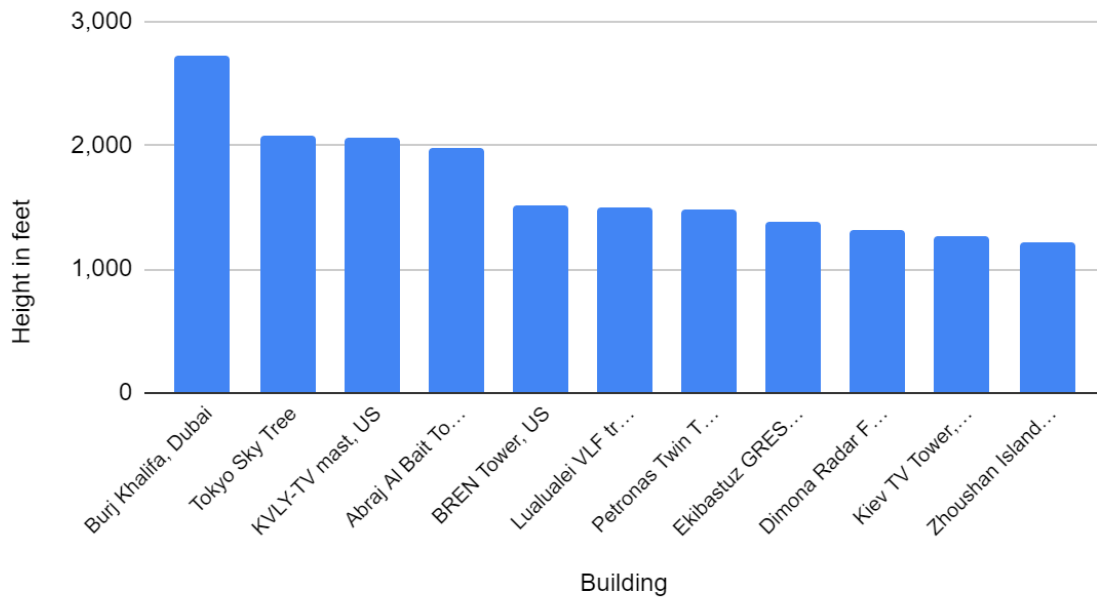
2010	Rs.18,500.00
2011	Rs.26,400.00
2012	Rs.31,050.00
2013	Rs.29,600.00
2014	Rs.28,006.50
2015	Rs.26,343.50
2016	Rs.28,623.50
2017	Rs.29,667.50
2018	Rs.31,438.00
2019	Rs.35,220.00
2020	Rs.48,651.00
2021	Rs.48,720.00
2022	Rs.52,670.00
2023	Rs.61,080.00



**Column chart-** A column chart is a data visualization where each category is represented by a rectangle, with the rectangle's height being proportional to the values being plotted. Column charts are also known as vertical bar charts.

Building	Height in feet
Burj Khalifa, Dubai	2,722
Tokyo Sky Tree	2,080
KVLY-TV mast, US	2,063
Abraj Al Bait Towers, Saudi Arabia	1,972
BREN Tower, US	1,516
Lualualei VLF transmitter	1,503
Petronas Twin Tower, Malaysia	1,482
Ekibastuz GRES-2 Power Station, Kazakhstan	1,377
Dimona Radar Facility, Israel	1,312
Kiev TV Tower, Ukraine	1,263
Zhoushan Island Overhead Powerline Tie, China	1,214

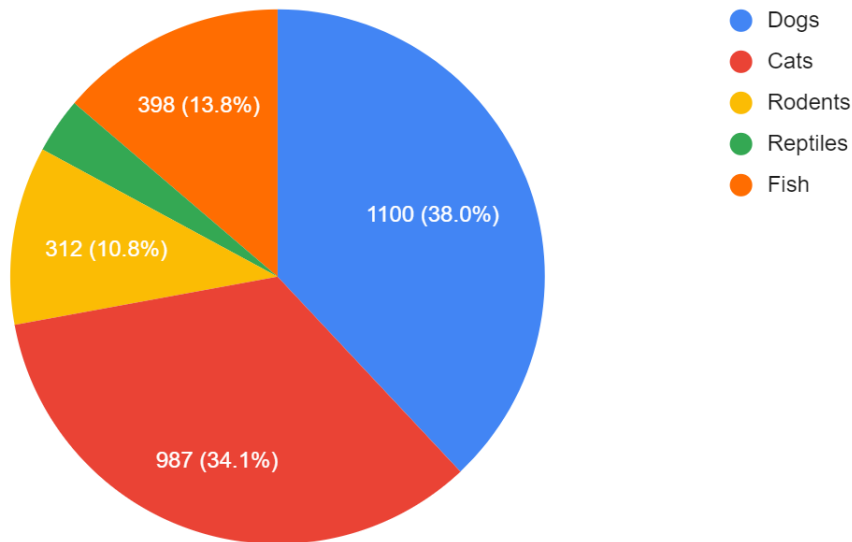
Height in feet vs. Building



**Pie chart:-** A pie chart is a pictorial representation of data in the form of a circular chart or pie where the slices of the pie show the size of the data. A list of numerical variables along with categorical variables is needed to represent data in the form of a pie chart. A pie chart is a type of chart that visually displays data in a circular graph. It is one of the most commonly used graphs to represent data using the attributes of circles, spheres, and angular data to represent real-world information.

Animals	No. of Owners
Dogs	1100
Cats	987
Rodents	312
Reptiles	97
Fish	398

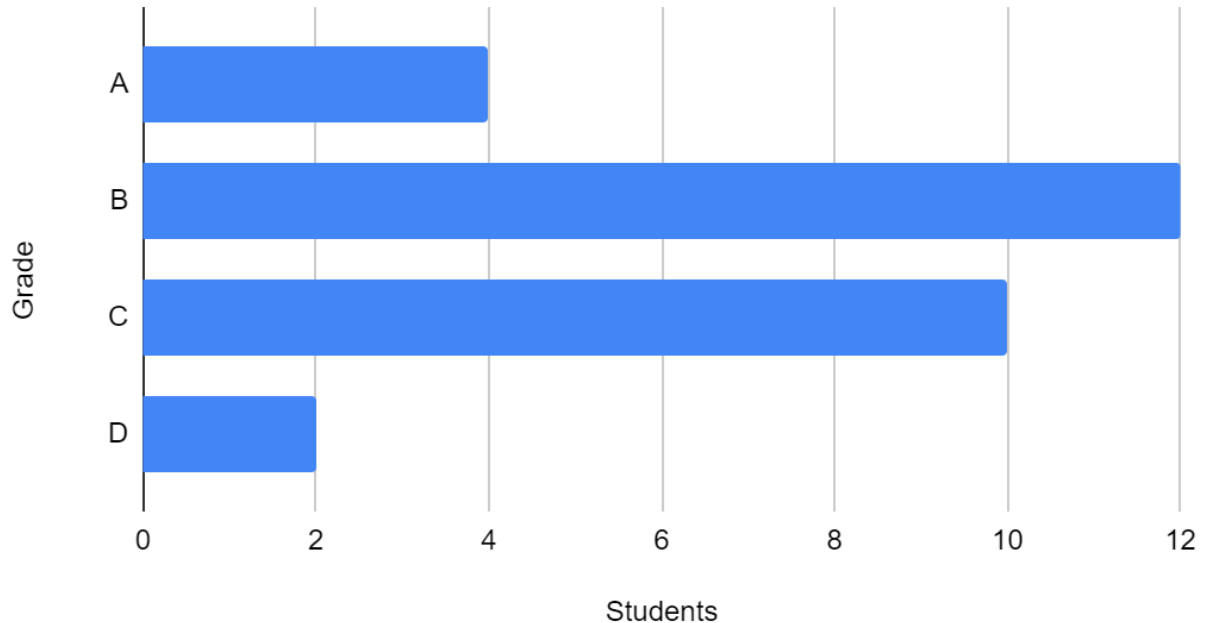
No. of Owners



**Bar chart:-** A bar chart is a statistical approach to representing given data using vertical and horizontal rectangular bars. The length of each bar is proportional to the value they represent. It is basically a graphical representation of data with the help of horizontal or vertical bars with different heights. In real life, bar graphs are mainly used in the corporate sector.

Grade	Students
A	4
B	12
C	10
D	2

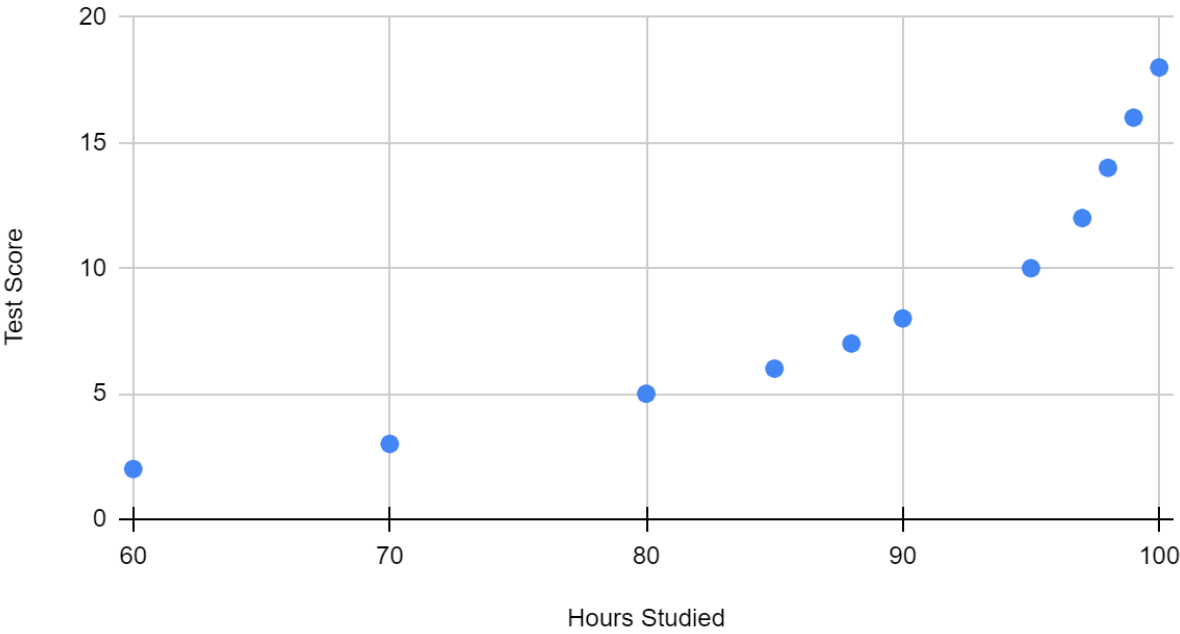
## Grade and Students



**Scatter chart:-** Scatter charts are based on basic line charts with the x-axis changed to a linear axis. To use a scatter chart, data must be passed as objects containing X and Y properties. Scatter plots/charts are used to plot data points on a horizontal and a vertical axis in an attempt to show how much one variable is affected by another. A scatter plot (aka scatter chart, scatter graph) uses dots to represent values for two different numeric variables.

Hours Studied	Test Score
2	60
3	70
5	80
6	85
7	88
8	90
10	95
12	97
14	98
16	99
18	100

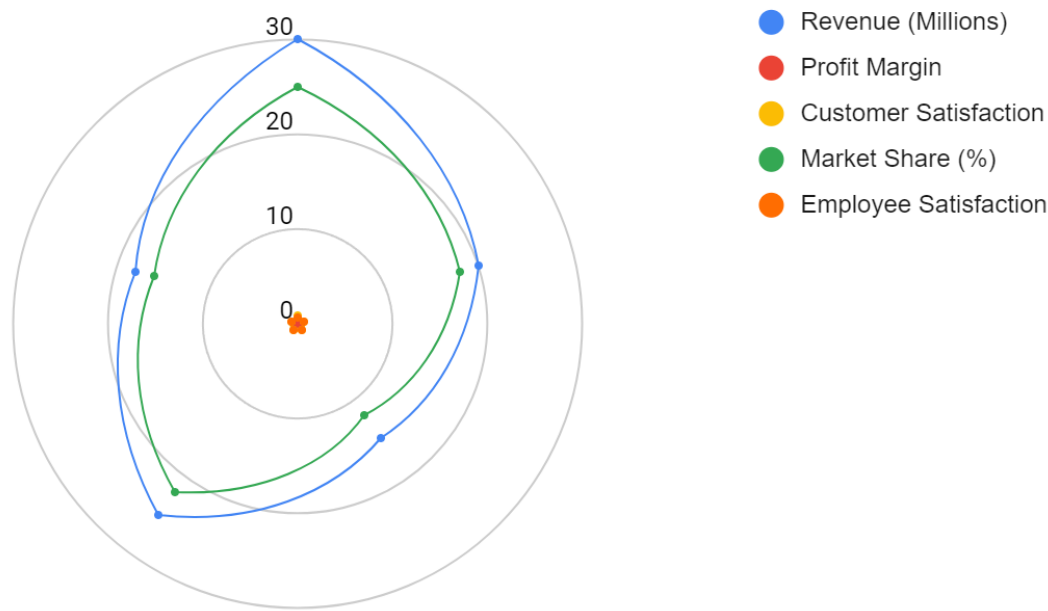
Test Score vs. Hours Studied



**Radar chart:-** A radar chart is a way of showing multiple data points and the variation between them. They are often useful for comparing the points of two or more different data sets. Radar Charts are used to compare two or more items or groups on various features or characteristics.

Department	Revenue (Millions)	Profit Margin	Customer Satisfaction	Market Share (%)	Employee Satisfaction
Sales	30	15%	80%	25	70%
Marketing	20	10%	75%	18	65%
R&D	15	20%	70%	12	80%
Operations	25	18%	85%	22	75%
Finance	18	12%	78%	16	68%

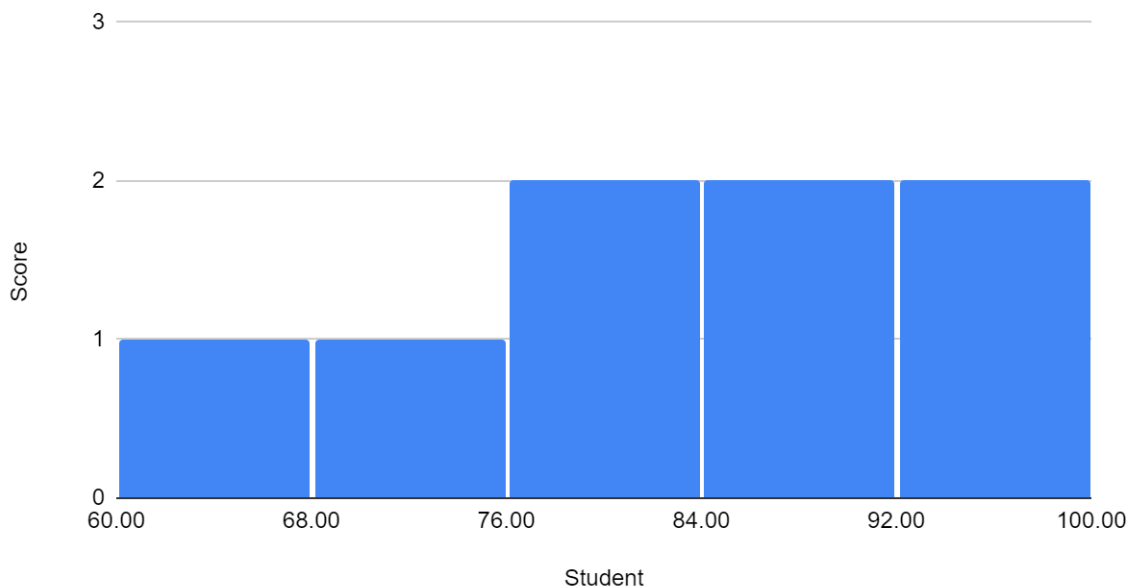
Departmentwise data



**Histogram chart:-** A histogram is a chart that groups numeric data into bins, displaying the bins as segmented columns. They're used to depict the distribution of a dataset: how often values fall into ranges.

Student	Score
A	85
B	92
C	78
D	65
E	88
F	76
G	95
H	70

Score vs. Student

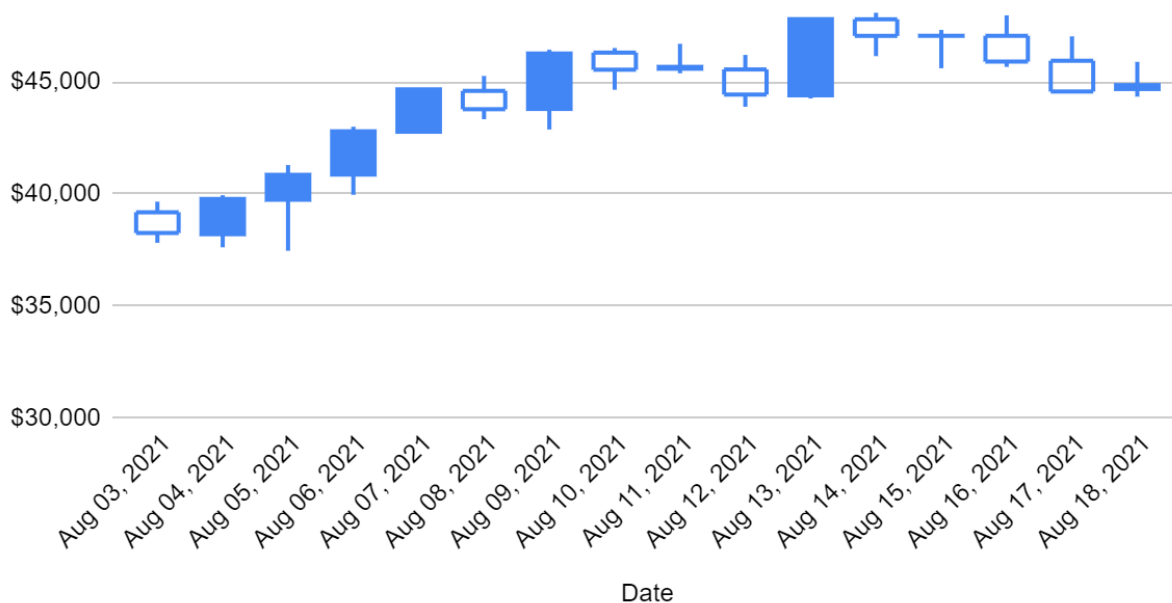


**Candlestick chart:-** Candlestick charts display an asset price's Open, High, Low, and Close prices over a period of time. They are sometimes referred to as the Japanese Candlestick chart. Its name comes from its appearance: The graph looks like a candle with a wick sticking out from both sides of the wax.



Date	Low	Open	Close	High
Aug 03, 2021	\$37,817	\$39,178	\$38,255	\$39,651
Aug 04, 2021	\$37,616	\$38,201	\$39,772	\$39,940
Aug 05, 2021	\$37,462	\$39,740	\$40,850	\$41,287
Aug 06, 2021	\$39,960	\$40,863	\$42,793	\$42,997
Aug 07, 2021	\$42,690	\$42,775	\$44,666	\$44,666
Aug 08, 2021	\$43,333	\$44,598	\$43,780	\$45,262
Aug 09, 2021	\$42,876	\$43,793	\$46,265	\$46,434
Aug 10, 2021	\$44,648	\$46,306	\$45,544	\$46,511
Aug 11, 2021	\$45,385	\$45,588	\$45,670	\$46,699
Aug 12, 2021	\$43,890	\$45,555	\$44,434	\$46,204
Aug 13, 2021	\$44,259	\$44,400	\$47,800	\$47,800
Aug 14, 2021	\$46,151	\$47,794	\$47,054	\$48,084
Aug 15, 2021	\$45,609	\$47,057	\$47,057	\$47,320
Aug 16, 2021	\$45,669	\$47,056	\$45,907	\$47,968
Aug 17, 2021	\$44,570	\$45,943	\$44,570	\$47,030
Aug 18, 2021	\$44,343	\$44,682	\$44,856	\$45,893

## Low, Open, Close and High



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Sub: Data Mining Lab



## Walchand College of Engineering, Sangli.

Experiment No: L

Title: Study and use of different types of graphs and charts

Aim: To study and use different types of graphs and charts.

Theory: There are various types of charts used in data mining.

Line chart:

In a line chart, category data is distributed evenly along the horizontal axis, and all value data is distributed evenly along the vertical axis. Line charts can show continuous data over time on an evenly scaled axis, so they are ideal for showing trends in data at equal intervals, like months, quarters, or fiscal years.

Column chart:

A column chart is a data visualization where each category is represented by a rectangle, with the rectangle's height being proportional to the values being plotted. Column charts are also known as vertical bar charts.



## Walchand College of Engineering, Sangli.

### A pie chart :

It is a pictorial representation of data in the form of a circular chart or pie where the slices of the pie show the size of the data. A list of numerical variables along with categorical variables is needed to represent data in the form of a pie chart. A pie chart is a type of chart that visually displays data in a circular path graph. It is one of the most commonly used graphs to represent data using the attributes of circles, spheres, and angular data to represent real-world information.

### Bar chart :

A bar chart is a statistical approach to representing given data using vertical and horizontal rectangular bars. The length of each bar is proportional to the value by they represent. It is basically a graphical representation of data with the help of horizontal or vertical bars with different heights. In real life, bar graphs are mainly used in the corporate sector.

### Scatter chart :

Scatter charts are based on basic line charts with the x-axis changed to a linear axis. To use a scatter chart, data must be passed as objects containing x and y properties. Scatter plots/charts are used to plot data points on a horizontal and a vertical axis is an attempt to show how much one variable is affected by another. A scatter plot uses dots to present values from two different values for two different numeric values.



## Radar chart:

A radar chart is a way of showing multiple data points and the variation between them. They are often useful for comparing the points of two or more different data sets. Radar charts are used to compare two or more items or groups on various features or characters.

## Histogram chart:

A histogram is a chart that groups numeric data into bins, displaying the bins as segmented columns. They're used to depict the distribution of a dataset: how often values fall into ranges.

## Candle Stick chart:

Candle stick charts display an asset price's open, high, low, and close prices over a period of time. They are sometimes referred to as the Japanese candlestick chart. Its name comes from its appearance. The graph looks like a candle with a wick sticking out from both sides of the wax.

Conclusion: Different types of MS-EXLS charts / graphs can be used to visualize data to interpret data information from it.