

Data Visualization

(01CE0614)

Department of Computer Engineering

6th Semester

Lab Manual

(Jan-May, 2025-26)

Student Name	Asif Alam	Enrollment No.	92201703058
Subject Name (Subject code)	Data Visualization (01CE1614)	Semester (Class)	6 EC-3
Batch (A/B/C)	B	Lab/ Week	1 Lab

S. No.	Experiment Title	Date	Page No.	Sign.
1	Create a line chart to show trends over time			
2	Create a pie chart to show the distribution of data			
3	Create a scatter plot to show the relationship between two variables			
4	Create a histogram to show the distribution of a continuous variable			
5	Create a heatmap to show the relationship between two or more variables			
6	Create a treemap to show the hierarchical structure of data			
7	Create a map to show the geographic distribution of data			
8	Create a dashboard to combine multiple visualizations into a single view			
9	Use filters and groups to explore your data in different ways			
10	Use custom formatting to improve the appearance of your visualizations			
11	Use custom formatting to improve the appearance of your visualizations			
12	Visualize the sales of a company by product category and region			
13	Track the performance of a marketing campaign over time			
14	Analyze customer behavior and identify trends			
15	Create a dashboard to track key performance indicators (KPIs) for a business			

1. Create a line chart to show trends over time.

- **Definition:** A line chart is a graph that uses lines to connect data points to show changes in value over time. It's also known as a line graph, line plot, or curve chart.
- **Application:** Line charts are used to track changes in data over time, and to compare changes between groups. They can also be used to identify patterns and correlations in data.
- **Dataset / Data source: IPL Season (2008-2022)**

Dataset: IPL Season

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	match_id	season	date	city	venue	team1	team2	toss_winnr	toss_player_of	winner	winner_outc	result	typ	results	gender	event		
2	335982	2007/08	18-04-2008	Bangalore	M Chinnaswamy Stadium	Royal Challengers	Kolkata Knight Riders	Royal Chal field	BB McCull	Kolkata Kn	0	140	defended	140	male	Indian F		
3	335983	2007/08	19-04-2008	Chandigarh	Punjab Cricket Associati	Kings XI Punjab	Chennai Super Kings	Chennai Si bat	MEK Hussi	Chennai Si	0	33	defended	33	male	Indian F		
4	335984	2007/08	19-04-2008	Delhi	Feroz Shah Kotla	Delhi Daredevils	Rajasthan Royals	Rajasthan bat	MF Mahari	Delhi Dare	9	0	chased	9	male	Indian F		
5	335985	2007/08	20-04-2008	Mumbai	Wankhede Stadium	Mumbai Indians	Royal Challengers Be	Mumbai In bat	MV Bouchi	Royal Chal	5	0	chased	5	male	Indian F		
6	335986	2007/08	20-04-2008	Kolkata	Eden Gardens	Kolkata Knight Ride	Deccan Chargers	Deccan Cl bat	DJ Hussey	Kolkata Kn	5	0	chased	5	male	Indian F		
7	335987	2007/08	21-04-2008	Jaipur	Sawai Mansingh Stadium	Rajasthan Royals	Kings XI Punjab	Kings XI Pu bat	SR Watsor	Rajasthan	6	0	chased	6	male	Indian F		
8	335988	2007/08	22-04-2008	Hyderabad	Rajiv Gandhi Internation	Deccan Chargers	Delhi Daredevils	Deccan Cl bat	V Sehwa	Delhi Dare	9	0	chased	9	male	Indian F		
9	335989	2007/08	23-04-2008	Chennai	MA Chidambaram Stadiu	Chennai Super King	Mumbai Indians	Mumbai In field	ML Hayder	Chennai Si	0	6	defended	6	male	Indian F		
10	335990	2007/08	24-04-2008	Hyderabad	Rajiv Gandhi Internation	Deccan Chargers	Rajasthan Royals	Rajasthan field	YK Pathan	Rajasthan	3	0	chased	3	male	Indian F		
11	335991	2007/08	25-04-2008	Chandigarh	Punjab Cricket Associati	Kings XI Punjab	Mumbai Indians	Mumbai In field	KC Sangak	Kings XI Pu	0	06	defended	66	male	Indian F		
12	335992	2007/08	26-04-2008	Bangalore	M Chinnaswamy Stadium	Royal Challengers	Rajasthan Royals	Rajasthan field	SR Watsor	Rajasthan	7	0	chased	7	male	Indian F		
13	335993	2007/08	26-04-2008	Chennai	MA Chidambaram Stadiu	Chennai Super King	Kolkata Knight Riders	Kolkata Kn bat	JDP Oram	Chennai Si	9	0	chased	9	male	Indian F		
14	335994	2007/08	27-04-2008	Mumbai	Dr DY Patil Sports Acade	Mumbai Indians	Deccan Chargers	Deccan Cl field	AC Gilchri	Deccan Cl	10	0	chased	10	male	Indian F		
15	335995	2007/08	27-04-2008	Chandigarh	Punjab Cricket Associati	Kings XI Punjab	Delhi Daredevils	Delhi Dare bat	SM Katich	Kings XI Pu	4	0	chased	4	male	Indian F		
16	335996	2007/08	28-04-2008	Bangalore	M Chinnaswamy Stadium	Royal Challengers	Chennai Super Kings	Chennai Si bat	MS Dhoni	Chennai Si	0	13	defended	13	male	Indian F		
17	335997	2007/08	29-04-2008	Kolkata	Eden Gardens	Kolkata Knight Ride	Mumbai Indians	Kolkata Kn bat	ST Jayasur	Mumbai In	7	0	chased	7	male	Indian F		
18	335998	2007/08	30-04-2008	Delhi	Feroz Shah Kotla	Delhi Daredevils	Royal Challengers Be	Royal Chal field	GD McGra	Delhi Dare	0	10	defended	10	male	Indian F		
19	335999	2007/08	01-05-2008	Hyderabad	Rajiv Gandhi Internation	Deccan Chargers	Kings XI Punjab	Kings XI Pu field	SE Marsh	Kings XI Pu	7	0	chased	7	male	Indian F		
20	336000	2007/08	01-05-2008	Jaipur	Sawai Mansingh Stadium	Rajasthan Royals	Kolkata Knight Riders	Rajasthan bat	SA Asnodk	Rajasthan	0	45	defended	45	male	Indian F		
21	336001	2007/08	02-05-2008	Chennai	MA Chidambaram Stadiu	Chennai Super King	Delhi Daredevils	Chennai Si bat	V Sehwa	Delhi Dare	8	0	chased	8	male	Indian F		
22	336002	2007/08	25-05-2008	Hyderabad	Rajiv Gandhi Internation	Deccan Chargers	Royal Challengers Be	Deccan Cl bat	R Vinay Ku	Royal Chal	5	0	chased	5	male	Indian F		

A1	S	T	U	V	W	X	Y	Z	AA
1	match_nu	umpire1	umpire2	reserve_ur	tv_umpire	match_ref	eliminator	method	date_1
2	1	Asad Rauf	RE Koertze	VN Kulkarr	AM Sahebi	J Srinath			
3	2	MR Bensor	SL Shastri	MSS Ranav	RB Tiffin	S Venkataraghavan			
4	3	Aleem Dar	GA Pratapkumar	IL Howell	GR Viswanath				
5	5	SJ Davis	DJ Harper	SN Bande	AV Jayapr	J Srinath			
6	4	BF Bowder	K Harihara	F Gomes	Asad Rauf	FM Engineer			
7	6	Aleem Dar	RB Tiffin	MSS Ranav	I Shivram	S Venkataraghavan			
8	7	IL Howell	AM Sahebi	C Shamshi	MR Bensor	Talat Ali			
9	8	DJ Harper	GA Pratapi	S Ravi	BF Bowder	FM Engineer			
10	9	Asad Rauf	MR Bensor	C Shamshi	SL Shastri	S Venkataraghavan			
11	10	Aleem Dar	AM Sahebi	HS Sekhon	RE Koertze	FM Engineer			
12	12	MR Bensor	IL Howell	SK Tarapor	GA Pratapi	J Srinath			
13	11	BF Bowder	AV Jayapr	S Ravi	SJ Davis	Talat Ali			
14	14	Asad Rauf	SL Shastri	VD Nerurk	DJ Harper	S Venkataraghavan			
15	13	RE Koertze	I Shivram	MS Mahal	Aleem Dar	FM Engineer			
16	15	BR Doctro	RB Tiffin		K Harihara	J Srinath			
17	16	BF Bowder	AV Jayapr	SK Porel	MR Bensor	S Venkataraghavan			
18	17	Aleem Dar	I Shivram	AK Chaudr	IL Howell	CH Lloyd			
19	19	BR Doctro	RB Tiffin	C Shamshi	SJ Davis	Talat Ali			
20	18	RE Koertze	GA Pratapi	MSS Ranav	Asad Rauf	FM Engineer			
21	20	BF Bowder	K Harihara	S Ravi	MR Bensor	S Venkataraghavan			
22	51	Asad Rauf	RE Koertzen		GA Pratapi	Talat Ali			

- Import the IPL dataset in tableau

Tableau - Book1

File Data Server Window Help

Connections: ipl_match_ball_by_ball_data (Text file)

Files: ipl_match_info_data.csv, ipl_match_ball_by_ball_data.csv

Fields: Match Id, Season, Date, City, Venue, Team1, Team2

Match Id	Season	Date	City	Ver
335982	2007/08	18-04-2008	Bangalore	M
335983	2007/08	19-04-2008	Chandigarh	Pl
335984	2007/08	19-04-2008	Delhi	Fe
335985	2007/08	20-04-2008	Mumbai	Wi
335986	2007/08	20-04-2008	Kolkata	Ec
335987	2007/08	21-04-2008	Jaipur	Se
335988	2007/08	22-04-2008	Hyderabad	Rz
335989	2007/08	23-04-2008	Chennai	M
335990	2007/08	24-04-2008	Hyderabad	Rz
335991	2007/08	25-04-2008	Chandigarh	Pl

- Drag number of match count in row and year in column
- Line chart of Matches played per Year or Season

