

**BIKE SHARING DEMAND ANALYSIS**

**PROJECT**

**Prepared by : Neha Pradhan**

**-Intern at NextHikes IT solutions**

**Date: 22<sup>nd</sup> July 2025**

**Prepared for: NextHikes IT solutions**

## **Acknowledgement**

I am deeply thankful to the NextHikes IT solutions for providing me the opportunity to work on this project. The resources and data availed by the organization played a vital role to my learning as well as successful completion of the project.

I would also like to thank my mentor for her continuous guidance. Her mentorship played a crucial role in helping me understand the concepts and use them practically.

Lastly, This project has been a valuable learning experience, and I am truly grateful to everyone who supported me along the path.

## **Introduction & Objective**

The primary objective of this project was to analyse how factors like weather condition, time of the day, seasons, and user type influence bike rental behaviour of the company. By examining given data on bike usage, the analysis aims to understand the patterns that help smarter business planning, resources allocation and operational decision which can ultimately help in better decision making, planning and customer engagement.

This project mainly uses Microsoft excel to clean, combine and study multiple datasets to uncover trends in bike rental.

### **Tools & Techniques used**

I have completed the project using Microsoft Excel, leveraging the following features:

- Power Query for merging and transforming data
- Pivot Tables for summary statistics and group analysis
- Conditional Formatting for visual data inspection
- Formulas (e.g., ROUND, IF, AVERAGE, MODE) for computation and transformation
- Charts and Dashboards for visual storytelling
- Find & select to manage missing data

\*YouTube tutorials and Excel documentation were consulted during the preprocessing phase to ensure efficient use of tools and techniques.

## Data Structure & Exploratory Insights

[https://docs.google.com/spreadsheets/d/1jJGenPLT6G4DzjnW8\\_4976-NchngBc51/edit?usp=sharing&ouid=109161729744067948500&rtpof=true&sd=true](https://docs.google.com/spreadsheets/d/1jJGenPLT6G4DzjnW8_4976-NchngBc51/edit?usp=sharing&ouid=109161729744067948500&rtpof=true&sd=true)

This project utilizes a combination of multiple Excel worksheets representing seasonal bike rental data.

Each sheet contains data on bike rentals, weather conditions, and calendar details. These datasets were merged using Power Query in Excel into a master sheet titled "merged 1,2&3", allowing comprehensive and seasonal analysis in a single view. Data cleaning was performed post-merge for uniformity and structure.

### **User Activity:**

- casual: Rentals by one-time or non-registered users
- registered: Rentals by frequent users with subscriptions(assumed)
- cnt: Total rentals = casual + registered

### **Exploratory Insights**

To uncover usage trends, pivot tables and conditional formatting were used in Excel.

#### ***Rentals by Time of Day:***

- Bike Rentals are typically in higher demand during *Morning and Evening* hours as corporate offices, colleges, schools etc open and close during this hour.
- Registered rentals are comparatively high during Evening.

#### ***Effect of season:***

- Rentals are highest during Spring season with total Rentals of 28305.
- Winter seasons has higher demand in comparison with Rainy.
- Summer season has low rental graphs across all users, especially during hours with heat warnings.

#### ***Type of Rentals:***

- Registered rentals are high across all seasons and entire time of the day.

-Rentals are high during weekdays and comparatively low on holidays and weekends.

## **Pivot Table Summary**

*Pivot tables* were created using Excel to analyse relationships across variables like time of the day, seasons, and type of rentals (casual & registered) and type of weather.

### **Rainy season**

Total Registered Rentals: 9,714

Highest Activity: Morning (4855 registered).

Lowest: Night (672 registered).

Observation: Registered users remain high despite bad weather, mostly in the morning. Casual user are minimal.

### **Spring Season**

Total Registered Rentals: 26307

Highest Activity: Morning (11561 registered).

Notable: Noon also high (3308 registered).

Observation: Spring shows highest usage across all user types, especially among registered users. Likely because of the pleasant weather.

### **Summer Season**

Total Registered Rentals: 1879

Highest Activity: Morning (605 registered).

Lowest: Night (232 Registered)

Observation: Overall lower rentals numbers than expected, possibly because of vacation season or lower working days.

### **Winter Season**

Total Registered Rentals: 9133

Highest Activity: Morning (3527 registered).

Observation: Despite cold weather registered user remain consistent, maybe because of work or college related commute.

## **Dashboard Summary**

Excel dashboard visualises key insight from the Bike Sharing Demand Analysis Dataset using three main Charts:

### **Rental by Seasons (Bar Chart)**

- Spring has the highest number of bike rentals. (28305)
- Winter follows with roughly 16959 rentals
- Rainy season shows moderate usage. (11294)
- Summer has the lowest Rentals, indicating the possibility of poor riding weather condition or the holidays.

**Finding:** Spring is the most preferred season for biking, likely due to pleasant weather.

### **Rentals by the time of the day (Pie Chart)**

- Evening is the most active time for rentals (19041).
- Morning also follows strongly. (15954)
- Noon and Night has significantly fewer rentals. (7554 at Night)

**Finding:** Morning and Evening commuting hours dominate the rental behaviour, linking with work, school, and colleges travel pattern.

### **Type of Rentals**

- Registered users rents bike in higher volume with more than 60000 rentals.
- Casual users contributes comparatively less with less than 10,000 rentals.

**Finding:** The platform is mostly used by registered user-suggesting frequent, possibly work related, college related or school related.

## **Conclusion & recommendation**

- Spring is the peak biking season, with the highest number of rentals across all time slots.
- Morning and Evening are the most active hours for bike usage in all seasons, reflecting daily commuting patterns.
- Registered users consistently dominate the rental counts across all seasons, indicating frequent and loyal usage.
- Casual user activity drops notably during Rainy and Summer seasons, likely due to uncomfortable weather or vacations.

### **Recommendation:**

To improve efficiency and customer satisfaction, businesses should optimize fleet distribution during peak periods, create loyalty incentives for regular users, and adopt weather-aware planning tools for demand forecasting.

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## Dashboard Summary

Excel dashboard visualises key insight from the Bike Sharing Demand Analysis Dataset using three main Charts:

**Rental by Seasons (Bar Chart)**

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**Finding:** Spring is the most preferred season for biking, likely due to pleasant weather.

**Rentals by the time of the day**

Page 5 of 5 736 words English (India) Accessibility: Unavailable

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Final Project - Microsoft Excel

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SUM =SUM(P2:P490,Q2:Q490)

TOTAL no. of Bike Rentals =SUM(P2:P490,Q2:Q490)

TOTAL no. of Casual Bike Rentals =SUM(Q2:Q490)

TOTAL no. of Rigid Bike Rentals =SUM(P2:Q2)

**Sheet1**

instant	diday	season	yr	month	time of the hr	holiday	weekday	weather	Temp	atemp	hum	windspeed	Seasons	casual	registered	cnt	
2	1	01-01-2011	1	0	1 Morning	0 FALSE	6	1	24	0.2679	0.81	0 Spring	3	13	16	0.24	24
3	2	01-01-2011	1	0	1 Morning	1 FALSE	6	1	22	0.2727	0.8	0 Spring	8	32	40	0.22	22
4	3	01-01-2011	1	0	1 Morning	2 FALSE	6	1	22	0.2727	0.8	0 Spring	5	27	32	0.22	22
5	465	29-02-2011	1	0	1 Morning	0 FALSE	6	1	22	0.2679	0.64	0.3582 Spring	2	28	28	0.22	22
6	466	13-02-2011	1	0	2 Morning	6 FALSE	0	2	26	0.2121	0.69	0.1343 Spring	2	5	5	0.2	20
7	467	13-02-2011	1	0	2 Morning	7 FALSE	0	2	22	0.2727	0.95	0 Spring	0	3	3	0.22	22
8	468	13-02-2011	1	0	2 Morning	8 FALSE	0	2	22	0.2576	0.91	0.1343 Spring	0	16	20	0.22	22
9	479	06-02-2011	1	0	2 Morning	9 FALSE	0	1	26	0.2576	0.7	0.1343 Spring	2	37	39	0.26	26
10	479	06-02-2011	1	0	2 Morning	1 FALSE	0	1	26	0.2727	0.65	0.4795 Spring	4	48	44	0.26	26
11	480	06-02-2011	1	0	2 Morning	2 FALSE	2	2	26	0.2727	0.93	0.4795 Spring	1	1	2	0.26	26
12	481	06-02-2011	1	0	2 Morning	2 FALSE	0	1	26	0.2727	0.6	0.3394 Spring	0	20	20	0.26	26
13	482	06-02-2011	1	0	2 Morning	3 FALSE	0	1	26	0.2679	0.6	0.0896 Spring	3	10	13	0.26	26
14	483	06-02-2011	1	0	2 Morning	4 FALSE	0	1	26	0.2727	0.6	0.3582 Spring	0	2	2	0.26	26
15	484	06-02-2011	1	0	2 Morning	5 FALSE	0	1	26	0.2576	0.6	0.2239 Spring	0	1	1	0.26	26
16	485	06-02-2011	1	0	2 Morning	6 FALSE	0	1	26	0.2576	0.6	0.2239 Spring	0	1	1	0.26	26
17	486	07-02-2011	1	0	2 Morning	9 FALSE	1	1	22	0.2727	0.8	0 Spring	3	115	110	0.22	22
18	487	07-02-2011	1	0	2 Morning	10 FALSE	1	1	24	0.2576	0.75	0.1343 Spring	6	45	55	0.24	24
19	306	06-02-2011	1	0	2 Morning	0 FALSE	6	2	24	0.2424	0.7	0.1343 Spring	2	36	39	0.24	24
20	308	06-02-2011	1	0	2 Morning	1 FALSE	6	2	24	0.2424	0.95	0.1343 Spring	4	17	18	0.24	24
21	309	06-02-2011	1	0	2 Morning	2 FALSE	6	2	24	0.2424	0.95	0.1343 Spring	5	17	17	0.24	24
22	310	06-02-2011	1	0	2 Morning	3 FALSE	6	2	24	0.2424	0.75	0.1343 Spring	1	10	11	0.24	24
23	311	06-02-2011	1	0	2 Morning	4 FALSE	6	3	22	0.2727	0.93	0.1343 Spring	0	6	6	0.22	22
24	312	06-02-2011	1	0	2 Morning	5 FALSE	6	3	20	0.2727	1	0.0896 Spring	0	9	9	0.2	20
25	314	06-02-2011	1	0	2 Morning	6 FALSE	6	3	20	0.2576	1	0 Spring	0	4	4	0.2	20
26	405	08-02-2011	1	0	2 Morning	4 FALSE	2	1	26	0.2576	0.93	0.1343 Spring	0	3	3	0.26	26
27	406	08-02-2011	1	0	2 Morning	5 FALSE	2	1	26	0.2273	0.81	0.3394 Spring	0	2	2	0.26	26
28	407	08-02-2011	1	0	2 Morning	6 FALSE	2	1	26	0.2273	0.7	0.3394 Spring	0	38	39	0.26	26
29	408	08-02-2011	1	0	2 Morning	7 FALSE	2	1	24	0.197	0.65	0.4795 Spring	3	97	100	0.24	24
30	409	08-02-2011	1	0	2 Morning	8 FALSE	2	1	24	0.197	0.56	0.4795 Spring	7	236	243	0.24	24
31	410	08-02-2011	1	0	2 Morning	9 FALSE	2	1	24	0.197	0.52	0.4795 Spring	7	128	135	0.24	24
32	411	08-02-2011	1	0	2 Morning	10 FALSE	2	1	22	0.1916	0.47	0.9522 Spring	4	44	48	0.22	22
33	412	08-02-2011	1	0	2 Morning	11 FALSE	2	1	22	0.1916	0.47	0.6427 Spring	1	49	50	0.22	22
34	295	05-02-2011	1	0	2 Morning	7 FALSE	6	3	20	0.2576	0.93	0.1343 Spring	0	4	4	0.25	25
35	296	05-02-2011	1	0	2 Morning	8 FALSE	6	3	20	0.2273	1	0.0896 Spring	0	10	10	0.2	20
36	297	05-02-2011	1	0	2 Morning	9 FALSE	6	3	20	0.2273	1	0.0896 Spring	0	17	20	0.2	20
37	298	05-02-2011	1	0	2 Morning	10 FALSE	6	3	20	0.2121	1	0.1343 Spring	0	31	34	0.2	20

Project Final Project - Microsoft Excel

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1	instant	dteday	season	yr	month	Time	hr	holiday	weekday	weather	Temp	atemp	hum	windspeed	Season	P	casual	registered	cnt	
2	23	40545	1	0	1	Morning	0	FALSE	0	2	45	0.645	0.98	0.295	Summer	4	13	17	0.46	46
3	24	40545	1	0	1	Morning	1	FALSE	0	2	44	0.594	0.94	0.257	Summer	1	16	17	0.44	44
4	25	40545	1	0	1	Morning	2	FALSE	0	2	43	0.542	0.93	0.295	Summer	1	16	6	0.42	42
5	26	40545	1	0	1	Morning	3	FALSE	0	2	45	0.645	0.94	0.295	Summer	2	4	6	0.46	46
6	27	40545	1	0	1	Morning	4	FALSE	0	2	46	0.273	0.94	0.295	Summer	2	1	3	0.46	46
7	28	40545	1	0	2	Morning	0	FALSE	0	3	42	0.242	0.77	0.295	Summer	0	2	2	0.42	42
8	5	40546	0	1	2	Morning	1	TRUE	1	1	36	0.594	0.93	0.295	Summer	3	8	11	0.38	38
9	42	40560	1	0	2	Morning	1	FALSE	1	1	39	0.629	0.97	0.295	Summer	1	7	3	0.36	36
10	7	40567	1	0	1	Morning	7	FALSE	0	2	40	0.409	0.76	0.295	Summer	0	1	1	0.4	40
11	13	40544	1	0	1	Morning	10	FALSE	6	1	38	0.393	0.76	0.257	Summer	12	24	36	0.38	38
12	31	40545	1	0	1	Morning	9	FALSE	0	2	36	0.212	0.91	0.223	Summer	1	19	20	0.38	38
13	20	40545	1	0	1	Morning	8	FALSE	0	3	49	0.273	0.71	0.295	Summer	0	6	4	0.41	41
14	32	40544	1	0	1	Noon	14	FALSE	6	2	46	0.645	0.72	0.265	Summer	35	71	106	0.46	46
15	1	40597	1	0	2	Noon	13	FALSE	0	1	36	0.393	0.29	0.292	Summer	62	92	154	0.38	38
16	2	40588	1	0	2	Noon	13	FALSE	0	1	38	0.393	0.29	0.262	Summer	62	92	154	0.38	38
17	9	40597	1	0	2	Noon	0	2	40	0.409	0.3	0.299	Summer	40	12	12	0.4	40		
18	30	40501	0	1	2	Noon	15	FALSE	1	1	39	0.393	0.29	0.295	Summer	4	46	50	0.38	38
19	14	40544	1	0	1	Noon	15	FALSE	6	2	44	0.394	0.77	0.295	Summer	40	70	110	0.44	44
20	5	40576	1	0	2	Noon	1	FALSE	1	1	38	0.393	0.3	0.288	Summer	2	61	63	0.38	38
21	6	40544	1	0	1	Noon	12	FALSE	6	1	42	0.242	0.77	0.268	Summer	29	55	84	0.42	42
22	11	40544	1	0	1	Noon	11	FALSE	6	1	42	0.242	0.77	0.268	Summer	47	79	111	0.44	44
23	9	40562	1	0	1	Noon	15	FALSE	2	1	40	0.409	0.54	0.265	Summer	4	78	82	0.4	40
24	7	40562	1	0	1	Noon	13	FALSE	3	1	40	0.409	0.5	0.208	Summer	11	67	78	0.4	40
25	32	40576	1	0	2	Noon	3	1	38	0.393	0.76	0.238	Summer	10	66	76	0.38	38		
26	8	40562	1	0	1	Noon	14	FALSE	3	1	40	0.409	0.59	0.257	Summer	7	68	75	0.4	40
27	20	40562	1	0	1	Evening	18	FALSE	3	1	39	0.393	0.59	0.295	Summer	40	44	54	0.38	38
28	16	40544	1	0	1	Evening	16	FALSE	6	2	42	0.642	0.82	0.298	Summer	41	52	93	0.42	42
29	16	40544	1	0	1	Evening	17	FALSE	6	2	44	0.273	0.8	0.268	Summer	15	52	67	0.44	44
30	17	40544	1	0	1	Evening	3	FALSE	6	3	42	0.642	0.8	0.257	Summer	9	26	35	0.42	42
31	33	40597	1	0	2	Evening	16	FALSE	0	2	42	0.424	0.39	0.304	Summer	26	106	134	0.42	42
32	24	40507	0	1	2	Evening	17	FALSE	0	1	42	0.409	0.35	0.295	Summer	20	90	95	0.4	40
33	35	40597	1	0	2	Evening	18	FALSE	0	1	40	0.409	0.32	0.295	Summer	17	78	95	0.4	40
34	36	40597	1	0	2	Evening	19	FALSE	0	1	40	0.409	0.35	0.268	Summer	11	50	61	0.4	40
35	36	40544	1	0	1	Evening	6	FALSE	0	1	42	0.424	0.88	0.257	Summer	6	31	37	0.42	42
36	30	40544	1	0	1	Night	20	FALSE	6	2	45	0.645	0.88	0.295	Summer	11	25	34	0.4	40
37	40	40597	1	0	2	Night	22	FALSE	0	1	40	0.409	0.35	0.295	Summer	3	27	30	0.4	40
38	20	40544	1	0	1	Night	21	FALSE	6	2	40	0.409	0.3	0.295	Summer	3	31	34	0.4	40
39	21	40544	1	0	1	Night	22	FALSE	6	2	40	0.409	0.34	0.223	Summer	11	17	28	0.4	40
40	22	40544	0	1	1	Night	23	FALSE	6	2	46	0.212	0.88	0.295	Summer	15	28	39	0.4	40
41	15	40597	1	0	2	Night	20	FALSE	0	1	40	0.409	0.35	0.295	Summer	15	33	47	0.4	40
42	38	40567	1	0	2	Night	21	FALSE	0	1	40	0.409	0.35	0.295	Summer	6	46	51	0.4	40
43	39	40597	1	0	2	Night	22	FALSE	0	1	40	0.409	0.35	0.295	Summer	5	31	35	0.4	40

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1	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC
2	1	17-01-2011	1	0	1	Night	20	TRUE	1	3	16	0.1515	0.8	0.1594	IF(N2>0.3, "Windy/Rainy", "Other"))	10	151	161	0.14	14	Total No of Bike Rentals	58304							
3	2	17-01-2011	1	0	1	Night	21	TRUE	1	3	16	0.1515	0.8	0.1594	IF(AND(M2>0.4, M2<0.2), "Clear", IF(AND(M2>0.4, M2<0.3), "Mist/Cloudy", IF(AND(M2>0.7, M2<0.2), "Foggy", "Other"))))	10	16	16	0.16	12	No of casual Rentals	4921							
4	3	21-01-2011	1	0	1	Noon	15	FALSE	5	1	16	0.1212	0.26	0.4478	IF(AND(M2>0.7, M2<0.2), "Foggy", "Other"))	16	52	54	0.16	16	No of Regd Rentals	53383							
5	4	21-01-2011	1	0	1	Evening	16	FALSE	5	1	16	0.1362	0.26	0.3582	IF(N2>0.3, "Windy/Rainy", "Other"))	16	16	16	0.16	16	No of Rentals on Weekdays	687							
6	5	21-01-2011	1	0	1	Evening	17	FALSE	5	1	14	0.1212	0.28	0.3582	Winter	10	112	112	0.14	14	No of Rentals on Weekends	164							
7	6	21-01-2011	1	0	1	Evening	18	FALSE	5	1	12	0.1212	0.3	0.2537	Winter	1	87	88	0.14	14	No of Holidays	24							
8	7	21-01-2011	1	0	1	Evening	19	FALSE	5	1	10	0.1212	0.38	0.2536	Winter	0	41	41	0.08	8	No of Rentals in the morning	408							
9	9	23-01-2011	1	0	1	Night	21	FALSE	5	1	8	0.7556	0.38	0.2536	Winter	0	41	41	0.08	8	No of Rentals in the noon	172							
10	10	23-01-2011	1	0	1	Night	22	FALSE	5	1	6	0.0303	0.41	0.3881	Winter	1	33	34	0.06	6	No of Rentals in the evening	174							
11	11	23-01-2011	1	0	1	Night	23	FALSE	5	1	6	0.0455	0.38	0.3284	Winter	0	27	27	0.06	6	No of Rentals at Night	172							
12	13	22-01-2011	1	0	1	Morning	0	FALSE	6	1	6	0.197	0.69	0.0896	Winter	0	13	13	0.04	4	No of Rentals in Winter	346							
13	14	22-02-2011	1	0	2	Morning	0	FALSE	6	1	6	0.1212	0.86	0	Winter	3	27	30	0.16	16	No of Rentals in Spring	489							
14	15	12-02-2011	1	0	2	Morning	1	FALSE	6	1	6	0.1212	0.86	0	Winter	2	22	24	0.14	14	No of Rentals in Rainy	123							
15	14	12-02-2011	1	0	2	Morning	1	FALSE	6	1	6	0.1813	0.28	0.1043	Winter	3	157	160	0.16	16	No of Rentals in Summer	42							
16	15	10-02-2011	1	0	2	Evening	18	FALSE	4	2	14	0.1212	0.86	0.2537	Winter	0	83	83	0.14	14	No of Rentals on Weekdays	687							
17	16	10-02-2011	1	0	2	Evening	19	FALSE	4	3	14	0.1515	0.86	0.1642	Winter	4	42	46	0.16	16	Assuming that the given data "True" means there was a Holiday and "False" means there was no Holiday								
18	17	09-02-2011	1	0	2	Evening	19	FALSE	4	3	14	0.1515	0.86	0.1642	Winter	0	37	37	0.16	16									
19	18	09-02-2011	1	0	2	Night	20	FALSE	3	3	16	0.1212	0.8	0.1594	Winter	0	16	16	0.14	14									
20	19	09-02-2011	1	0	2	Night	21	FALSE	3	2	14	0.1364	0.86	0.1594	Winter	7	223	230	0.16	16									
21	20	09-02-2011	1	0	2	Night	22	FALSE	3	2	16	0.2273	1	0	Winter	0	27	27	0.16	16									
22	21	10-03-2011	1	0	2	Morning	0	FALSE	4	3	14	0.1364	0.59	0	Winter	0													

Book2 - Excel

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1	instant	dtday	season	yr	month	hr	holiday	weekday	weathersit	Temp	atemp	hum	windspeed	Seasons	casual	registered	cnt	temp	Temp2
601	631	29-01-2011	1	0	1	13	FALSE	6	2	22	0.2273	0.55	0.1642	Spring	9	56	65	0.22	22
602	632	29-01-2011	1	0	1	14	FALSE	6	2	22	0.2273	0.6	0.1343	Spring	10	89	99	0.22	22
603	633	29-01-2011	1	0	1	15	FALSE	6	1	22	0.2121	0.69	0.2537	Spring	22	98	120	0.22	22
604	634	29-01-2011	1	0	1	16	FALSE	6	1	24	0.2273	0.6	0.1642	Spring	19	88	107	0.24	24
605	635	29-01-2011	1	0	1	17	FALSE	6	1	24	0.2879	0.6	0.1343	Spring	9	82	91	0.24	24
606	636	29-01-2011	1	0	1	18	FALSE	6	1	22	0.2273	0.69	0.1343	Spring	9	59	68	0.22	22
607	637	29-01-2011	1	0	1	19	FALSE	6	2	22	0.2121	0.69	0.2537	Spring	6	52	58	0.22	22
608	638	30-01-2011	1	0	1	18	FALSE	0	1	26	0.2576	0.65	0.1642	Spring	8	57	65	0.26	26
609	639	30-01-2011	1	0	1	19	FALSE	0	1	26	0.2576	0.65	0.1343	Spring	9	46	55	0.26	26
610	641	30-01-2011	1	0	1	20	FALSE	0	2	26	0.2272	0.65	0.1045	Spring	3	30	33	0.26	26
611	642	30-01-2011	1	0	1	21	FALSE	0	2	24	0.2424	0.7	0.1642	Spring	3	25	28	0.24	24
612	643	30-01-2011	1	0	1	22	FALSE	0	2	24	0.2273	0.7	0.1943	Spring	2	19	21	0.24	24
613	644	30-01-2011	1	0	1	23	FALSE	0	2	24	0.2121	0.65	0.2836	Spring	5	16	21	0.24	24
614	645	31-01-2011	1	0	1	0	FALSE	1	2	24	0.2273	0.65	0.2236	Spring	1	6	7	0.24	24
615	646	31-01-2011	1	0	1	1	FALSE	1	1	22	0.2273	0.64	0.2537	Spring	2	5	7	0.22	22
616	647	31-01-2011	1	0	1	2	FALSE	1	1	22	0.2273	0.64	0.1343	Spring	0	1	1	0.22	22
617	648	31-01-2011	1	0	1	3	FALSE	1	1	22	0.2879	0.64	0.1343	Spring	0	2	2	0.22	22
618	649	31-01-2011	1	0	1	4	FALSE	1	1	20	0.487	0.59	0.2239	Spring	0	2	2	0.2	20
619	650	31-01-2011	1	0	1	5	FALSE	1	1	18	0.1667	0.64	0.2836	Spring	0	8	8	0.18	18
620	651	31-01-2011	1	0	1	20	FALSE	6	1	18	0.2121	0.74	0.0896	Spring	1	42	43	0.18	18
621	652	29-01-2011	1	0	1	21	FALSE	6	1	18	0.2121	0.74	0.0896	Spring	1	35	36	0.18	18
622	653	30-01-2011	1	0	1	10	FALSE	0	2	18	0.2424	0.8	0	Spring	7	57	64	0.18	18
623	654	30-01-2011	1	0	1	11	FALSE	0	1	22	0.2272	0.75	0	Spring	9	50	59	0.22	22
624	655	30-01-2011	1	0	1	12	FALSE	0	1	30	0.3182	0.52	0.1045	Rainy	10	87	97	0.3	30
625	656	30-01-2011	1	0	1	13	FALSE	0	1	28	0.2879	0.61	0.1045	Rainy	13	71	84	0.28	28
626	657	30-01-2011	1	0	1	14	FALSE	0	1	28	0.303	0.61	0.0896	Rainy	18	104	122	0.28	28
627	658	30-01-2011	1	0	1	15	FALSE	0	1	30	0.3333	0.56	0	Rainy	14	95	109	0.3	30
628	659	30-01-2011	1	0	1	16	FALSE	0	1	30	0.3333	0.56	0.1343	Rainy	19	104	123	0.3	30
629	660	30-01-2011	1	0	1	17	FALSE	0	1	30	0.3333	0.56	0.1343	Rainy	6	71	77	0.3	30
630	661	31-01-2011	1	0	1	18	FALSE	1	1	30	0.3333	0.56	0.1045	Rainy	3	100	111	0.3	30
631	662	31-01-2011	1	0	1	20	FALSE	1	3	16	0.1667	0.59	0.1642	Winter	0	78	78	0.16	16
632	663	31-01-2011	1	0	1	21	FALSE	1	3	16	0.159	0.59	0.0896	Winter	3	53	56	0.16	16
633	664	31-01-2011	1	0	1	22	FALSE	1	2	16	0.1818	0.59	0.1045	Winter	0	34	34	0.16	16
634	665	31-01-2011	1	0	1	23	FALSE	1	2	16	0.197	0.64	0.0896	Winter	2	15	17	0.16	16
635	666	31-01-2011	1	0	1	6	FALSE	1	1	16	0.1364	0.69	0.3284	Winter	0	37	37	0.16	16
636	667	31-01-2011	1	0	1	7	FALSE	1	2	16	0.1364	0.64	0.2836	Winter	1	71	72	0.16	16
637	668	31-01-2011	1	0	1	22	FALSE	6	2	16	0.1364	0.59	0.2836	Winter	3	182	185	0.16	16

Book2 - Excel

File Home Insert Draw Page Layout Formulas Data Review View Help Table Design Query Tell me what you want to do Share

A624 fx =IF(U2<17,"Winter",IF(U2<27,"Pre Monsoon", IF(U2<37,"Monsoon", "Summer")))

Ready Accessibility: Investigate

Search ENG IN 02:23 PM 09-07-2025

1	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
yr	mmth	hr	holiday	weekday	weathersit	Temp	atemp	hum	windspeed	Seasons	casual	registered	cnt	temp	Temp2				
2	0	1	0	FALSE	6	1	24	0.2879	0.81	0	=IF(U2<17,"Winter",IF(U2<27,"Pre Monsoon", IF(U2<37,"Monsoon", "Summer")))				0.22	22			
3	0	1	1	FALSE	6	1	22	0.2727	0.8	0					IF(logical_test, [value_if_true], [value_if_false])				
4	0	1	2	FALSE	6	1	22	0.2727	0.8	0					0.22	22			
5	0	1	3	FALSE	6	1	24	0.2879	0.75	0					0.24	24			
6	0	1	4	FALSE	6	1	24	0.2879	0.75	0					0.24	24			
7	0	1	5	FALSE	6	2	24	0.2576	0.75	0.0896					0.24	24			
8	0	1	6	FALSE	6	1	22	0.2727	0.8	0					0.22	22			
9	0	1	7	FALSE	6	1	20	0.2576	0.86	0					0.2	20			
10	0	1	8	FALSE	6	1	24	0.75	0						0.24	24			
11	0	1	9	FALSE	6	1	32	0.3485	0.76	0					0.32	32			
12	0	1	10	FALSE	6	1	38	0.3939	0.76	0.2537					0.38	38			
13	0	1	11	FALSE	6	1	36	0.3333	0.81	0.2836					0.36	36			
14	0	1	12	FALSE	6	1	42	0.4242	0.77	0.2836					0.42	42			
15	0	1	13	FALSE	6	2	46	0.4545	0.72	0.2985					0.46	46			
16	0	1	14	FALSE	6	2	46	0.4545	0.72	0.2836					0.46	46			
17	0	1	15	FALSE	6	2	44	0.4394	0.77	0.2985					0.44	44			
18	0	1	16	FALSE	6	2	42	0.4242	0.82	0.2985					0.42	42			
19	0	1	17	FALSE	6	2	44	0.82	0.2836					0.44	44				
20	0	1	18	FALSE	6	3	42	0.4242	0.88	0.2537					0.42	42			
21	0	1	19	FALSE	6	3	42	0.4242	0.88	0.2537					0.42	42			
22	0	1	20	FALSE	6	2	40	0.4091	0.87	0.2537					0.4	40			
23	0	1	21	FALSE	6	2	40	0.4091	0.94	0.2239					0.4	40			
24	0	1	22	FALSE	6	2	40	0.4091	0.94	0.2239					0.4	40			

Book1 - Excel

Neha Pradhan

T7 =STDEV.S(L2:L1001)

1	season	yr	mnth	hr	holiday	weekday	weatherisit	temp	atemp	hum	windspeed	casual	registered	cnt
2	1	0	1	0	FALSE	6	1	0.24	0.2879	0.81	0	3	13	16
3	1	0	1	1	FALSE	6	1	0.22	0.2727	0.8	0	8	32	40
4	1	0	1	2	FALSE	6	1	0.22	0.2727	0.8	0	5	27	32
5	1	0	1	3	FALSE	6	1	0.24	0.2879	0.75	0	3	10	13
6	1	0	1	4	FALSE	6	1	0.24	0.2879	0.75	0	0	1	1
7	1	0	1	5	FALSE	6	2	0.24	0.2576	0.75	0.0896	0	1	1
8	1	0	1	6	FALSE	6	1	0.22	0.2727	0.8	0	2	0	2
9	1	0	1	7	FALSE	6	1	0.2	0.2576	0.86	0	1	2	3
10	1	0	1	8	FALSE	6	1	0.24	0.2879	0.75	0	1	7	8
11	1	0	1	9	FALSE	6	1	0.32	0.3485	0.76	0	8	6	14
12	1	0	1	10	FALSE	6	1	0.38	0.3939	0.76	0.2537	12	24	36
13	1	0	1	11	FALSE	6	1	0.36	0.3333	0.81	0.2836	26	30	56
14	1	0	1	12	FALSE	6	1	0.42	0.4242	0.77	0.2836	29	55	84
15	1	0	1	13	FALSE	6	2	0.46	0.4545	0.72	0.2985	47	47	94
16	1	0	1	14	FALSE	6	2	0.46	0.4545	0.72	0.2836	35	71	106
17	1	0	1	15	FALSE	6	2	0.44	0.4394	0.77	0.2985	40	70	110
18	1	0	1	16	FALSE	6	2	0.42	0.4242	0.82	0.2985	41	52	93
19	1	0	1	17	FALSE	6	2	0.44	0.4444	0.82	0.2836	15	52	67
20	1	0	1	18	FALSE	6	3	0.42	0.4242	0.88	0.2537	9	26	35
21	1	0	1	19	FALSE	6	3	0.42	0.4242	0.88	0.2537	6	31	37

Mean of atemp 0.211958  
Median of atemp 0.2121  
Mode of atemp 0.2273  
Standard deviation 0.076703

Book1 - Excel

Neha Pradhan

T6 =MODE.SNGL(L2:L1001)

1	season	yr	mnth	hr	holiday	weekday	weatherisit	temp	atemp	hum	windspeed	casual	registered	cnt
2	1	0	1	0	FALSE	6	1	0.24	0.2879	0.81	0	3	13	16
3	1	0	1	1	FALSE	6	1	0.22	0.2727	0.8	0	8	32	40
4	1	0	1	2	FALSE	6	1	0.22	0.2727	0.8	0	5	27	32
5	1	0	1	3	FALSE	6	1	0.24	0.2879	0.75	0	3	10	13
6	1	0	1	4	FALSE	6	1	0.24	0.2879	0.75	0	0	1	1
7	1	0	1	5	FALSE	6	2	0.24	0.2576	0.75	0.0896	0	1	1
8	1	0	1	6	FALSE	6	1	0.22	0.2727	0.8	0	2	0	2
9	1	0	1	7	FALSE	6	1	0.2	0.2576	0.86	0	1	2	3
10	1	0	1	8	FALSE	6	1	0.24	0.2879	0.75	0	1	7	8
11	1	0	1	9	FALSE	6	1	0.32	0.3485	0.76	0	8	6	14
12	1	0	1	10	FALSE	6	1	0.38	0.3939	0.76	0.2537	12	24	36
13	1	0	1	11	FALSE	6	1	0.36	0.3333	0.81	0.2836	26	30	56
14	1	0	1	12	FALSE	6	1	0.42	0.4242	0.77	0.2836	29	55	84
15	1	0	1	13	FALSE	6	2	0.46	0.4545	0.72	0.2985	47	47	94
16	1	0	1	14	FALSE	6	2	0.46	0.4545	0.72	0.2836	35	71	106
17	1	0	1	15	FALSE	6	2	0.44	0.4394	0.77	0.2985	40	70	110
18	1	0	1	16	FALSE	6	2	0.42	0.4242	0.82	0.2985	41	52	93
19	1	0	1	17	FALSE	6	2	0.44	0.4444	0.82	0.2836	15	52	67
20	1	0	1	18	FALSE	6	3	0.42	0.4242	0.88	0.2537	9	26	35
21	1	0	1	19	FALSE	6	3	0.42	0.4242	0.88	0.2537	6	31	37

Mean of atemp 0.211958  
Median of atemp 0.2121  
Mode of atemp 0.2273  
Standard deviation 0.076703

Book1 - Excel

Neha Pradhan

Tell me what you want to do

File Home Insert Draw Page Layout Formulas Data Review View Help

Clipboard Font Alignment Number Styles Cells Editing Add-ins

Font: Calibri Size: 11

Font: B I U

Font: A A

Font: Alignment: Center

Font: Number: General

Font: Styles: Conditional Formatting

Font: Cells: Insert

Font: Editing: Sort & Filter

Font: Add-ins: Share

T5 =MEDIAN(L2:L1001)

Mean of atemp: 0.211958  
Median of atemp: 0.2121  
Mode of atemp: 0.2273  
Standard deviation: 0.076703

	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	season	yr	mnth	hr	holiday	weekday	weathersit	temp	atemp	hum	windspeed	casual	registered	cnt					
2	1	0	1	0	FALSE	6	1	0.24	0.2879	0.81	0	3	13	16					
3	1	0	1	1	FALSE	6	1	0.22	0.2727	0.8	0	8	32	40					
4	1	0	1	2	FALSE	6	1	0.22	0.2727	0.8	0	5	27	32					
5	1	0	1	3	FALSE	6	1	0.24	0.2879	0.75	0	3	10	13					
6	1	0	1	4	FALSE	6	1	0.24	0.2879	0.75	0	0	1	1					
7	1	0	1	5	FALSE	6	2	0.24	0.2576	0.75	0.0896	0	1	1					
8	1	0	1	6	FALSE	6	1	0.22	0.2727	0.8	0	2	0	2					
9	1	0	1	7	FALSE	6	1	0.2	0.2576	0.86	0	1	2	3					
10	1	0	1	8	FALSE	6	1	0.24	0.2576	0.75	0	1	7	8					
11	1	0	1	9	FALSE	6	1	0.32	0.3485	0.76	0	8	6	14					
12	1	0	1	10	FALSE	6	1	0.38	0.3939	0.76	0.2537	12	24	36					
13	1	0	1	11	FALSE	6	1	0.36	0.3333	0.81	0.2836	26	30	56					
14	1	0	1	12	FALSE	6	1	0.42	0.4242	0.77	0.2836	29	55	84					
15	1	0	1	13	FALSE	6	2	0.46	0.4545	0.72	0.2985	47	47	94					
16	1	0	1	14	FALSE	6	2	0.46	0.4545	0.72	0.2836	35	71	106					
17	1	0	1	15	FALSE	6	2	0.44	0.4394	0.77	0.2985	40	70	110					
18	1	0	1	16	FALSE	6	2	0.42	0.4242	0.82	0.2985	41	52	93					
19	1	0	1	17	FALSE	6	2	0.44	0.44	0.82	0.2836	15	52	67					
20	1	0	1	18	FALSE	6	3	0.42	0.4242	0.88	0.2537	9	26	35					
21	1	0	1	19	FALSE	6	3	0.42	0.4242	0.88	0.2537	6	31	37					

Merge\_FOR\_database\_1\_2 dataset\_1 dataset\_2 MERGE OF DATABASE 1,2 &3 dataset\_3 ... + 100%

Ready Accessibility: Investigate

File Home Insert Draw Page Layout Formulas Data Review View Table Tools Query Tools Help

Clipboard Font Alignment Number Styles Cells Editing Add-ins

Font: Calibri Size: 11

Font: B I U

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Font: Alignment: Center

Font: Number: General

Font: Styles: Conditional Formatting

Font: Cells: Insert

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L10 =MEDIAN(L2:L1001)

Mean of atemp: 0.211958  
Median of atemp: 0.2121  
Mode of atemp: 0.2273  
Standard deviation: 0.076703

	instant	dteday.1	dteday.2	season	yr	mnth	hr	holiday	weekday	weathersit	temp	atemp	hum	windspeed	casual	registered	cnt	R	S
38	37	02-01-2011	12:00:00 AM	1	0	1	13	FALSE	0	2	0.36	0.3485	0.66	0.1343	11	64	75		
39	38	02-01-2011	12:00:00 AM	1	0	1	14	FALSE	0	3	0.36	0.3485	0.76	0.194	4	55	59		
40	39	02-01-2011	12:00:00 AM	1	0	1	15	FALSE	0	3	0.34	0.3333	0.81	0.1642	19	55	74		
41	40	02-01-2011	12:00:00 AM	1	0	1	16	FALSE	0	3	0.34	0.3333	0.71	0.1642	9	67	76		
42	41	02-01-2011	12:00:00 AM	1	0	1	17	FALSE	0	1	0.34	0.3333	0.57	0.194	7	58	65		
43	42	02-01-2011	12:00:00 AM	1	0	1	18	FALSE	0	2	0.36	0.3333	0.46	0.3284	10	43	53		
44	43	02-01-2011	12:00:00 AM	1	0	1	19	FALSE	0	1	0.32	0.2879	0.42	0.4478	1	29	30		
45	44	02-01-2011	12:00:00 AM	1	0	1	20	FALSE	0	1	0.3	0.2879	0.42	0.3582	5	17	22		
46	45	02-01-2011	12:00:00 AM	1	0	1	21	FALSE	0	1	0.26	0.2273	0.44	0.3284	11	20	31		
47	46	02-01-2011	12:00:00 AM	1	0	1	22	FALSE	0	1	0.24	0.2121	0.44	0.2985	0	9	9		
48	47	02-01-2011	12:00:00 AM	1	0	1	23	FALSE	0	1	0.22	0.2273	0.47	0.1642	0	8	8		
49	48	03-01-2011	12:00:00 AM	1	0	1	0	FALSE	1	1	0.22	0.197	0.44	0.3582	0	5	5		
50	49	03-01-2011	12:00:00 AM	1	0	1	1	FALSE	1	1	0.2	0.197	0.44	0.4179	0	2	2		
51	50	03-01-2011	12:00:00 AM	1	0	1	4	FALSE	1	1	0.16	0.1364	0.47	0.3881	0	1	1		
52	51	03-01-2011	12:00:00 AM	1	0	1	5	FALSE	1	1	0.16	0.1364	0.47	0.2836	0	3	3		
53	52	03-01-2011	12:00:00 AM	1	0	1	6	FALSE	1	1	0.14	0.1061	0.5	0.3881	0	30	30		
54	53	03-01-2011	12:00:00 AM	1	0	1	7	FALSE	1	1	0.14	0.1364	0.5	0.194	1	63	64		
55	54	03-01-2011	12:00:00 AM	1	0	1	8	FALSE	1	1	0.14	0.1212	0.5	0.2836	1	153	154		
56	55	03-01-2011	12:00:00 AM	1	0	1	9	FALSE	1	1	0.16	0.1364	0.43	0.3881	7	81	88		
57	56	03-01-2011	12:00:00 AM	1	0	1	10	FALSE	1	1	0.18	0.1667	0.43	0.2537	11	33	44		
58	57	03-01-2011	12:00:00 AM	1	0	1	11	FALSE	1	1	0.2	0.1818	0.4	0.3284	10	41	51		

Merge\_FOR\_database\_1\_2 dataset\_1 dataset\_2 MERGE OF DATABASE 1,2 &3 dataset\_3 ... + 100%

Ready Accessibility: Investigate

File Home Insert Draw Page Layout Formulas Data Review View Table Tools Query Tools Help

Clipboard Font Alignment Number Styles Cells Editing Add-ins

Font: Calibri Size: 11

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Font: Cells: Insert

Font: Editing: Sort & Filter

Font: Add-ins: Share

Book1 - Excel

File Home Insert Draw Page Layout Formulas Data Review View Help Table Design Query Tell me what you want to do Neha Pradhan Share

Merge\_FO... Go To Special ?

Select

- Comments
- Constants
- Formulas
- Numbers
- Dependents
- Text
- Logicals
- Errors
- Blanks
- Current region
- Current array
- Objects

OK Cancel

	K	L	M	N	O	P	Q	R	S	T	U	V
1	season	atemp	hum	windspeed	casual	registered	cnt					
2	1	0.24	0.2879	0.81	0	3	13	16				
3	1	0.22	0.2727	0.8	0	8	32	40				
4	1	0.22	0.2727	0.8	0	5	27	32				
5	1	0.24	0.2879	0.75	0	3	10	13				
6	1	0.24	0.2879	0.75	0	0	1	1				
7	1	0.24	0.2576	0.75	0.0896	0	1	1				
8	1	0.22	0.2727	0.8	0	2	0	2				
9	1	0.2	0.2576	0.86	0	1	2	3				
10	1	0.24	0.75	0	1	7	8					
11	1	0.32	0.3485	0.76	0	8	6	14				
12	1	0.38	0.3939	0.76	0.2537	12	24	36				
13	1	0.36	0.3333	0.81	0.2836	26	30	56				
14	1	0.42	0.4242	0.77	0.2836	29	55	84				
15	1	0.46	0.4545	0.72	0.2985	47	47	94				
16	1	0.46	0.4545	0.72	0.2836	35	71	106				
17	1	0.44	0.4394	0.77	0.2985	40	70	110				
18	1	0.42	0.4242	0.82	0.2985	41	52	93				
19	1	0.44	0.4242	0.88	0.2836	15	52	67				
20	1	0.42	0.4242	0.88	0.2537	9	26	35				
21	1	0.42	0.4242	0.88	0.2537	6	31	37				

Average: 2736.14771 Count: 9749 Sum: 25005653.92

Merge FOR database 1 &2 dataset\_1 (2) dataset\_1 dataset\_2 Sheet1 + 100%

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dataset\_1 - Excel

File Home Insert Draw Page Layout Formulas Data Review View Help Table Design Query Tell me what you want to do Neha Pradhan Share

Data

From Text/CSV From Web Existing Connections Refresh All Workbook Links

From File From Excel Workbook

From Database From Other Sources

Combine Queries Launch Power Query Editor... Data Source Settings... Query Options

Queries & Connections Sort & Filter Advanced Text to Columns Forecast Group Ungroup Subtotal Outline

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dataset\_1 Sheet1 + 100%

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## **Thank you**

I would like to express my sincere gratitude to everyone who contributed to the successful completion of this project. Special thanks to:

- My mentors and instructors for their guidance and support.
- The creators of the dataset for providing valuable real-world data.

Online resources (including YouTube tutorials and Excel forums) helped me learn advanced Excel techniques like Power Query, Pivot Tables, and Dashboards.

This project not only enhanced my analytical and Excel skills but also deepened my understanding of data-driven decision-making.

Thank you for taking the time to review my work.