AMRITA VISHWA VIDYAPEETHAM
DEEMED TO BE UNIVERSITY
Mysuru Campus

20CSA282 – Data Science Using Spread Sheet Modelling Lab

Excel-Project - 8. Take a data of your choice, construct all pivot reports on that. Also perform various calculations using mathematical functions (AVG, SUM…) in the pivot tables.

A report submitted by

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BACHELOR OF COMPUTER APPLICATIONS DATA SCIENCE

Submitted to

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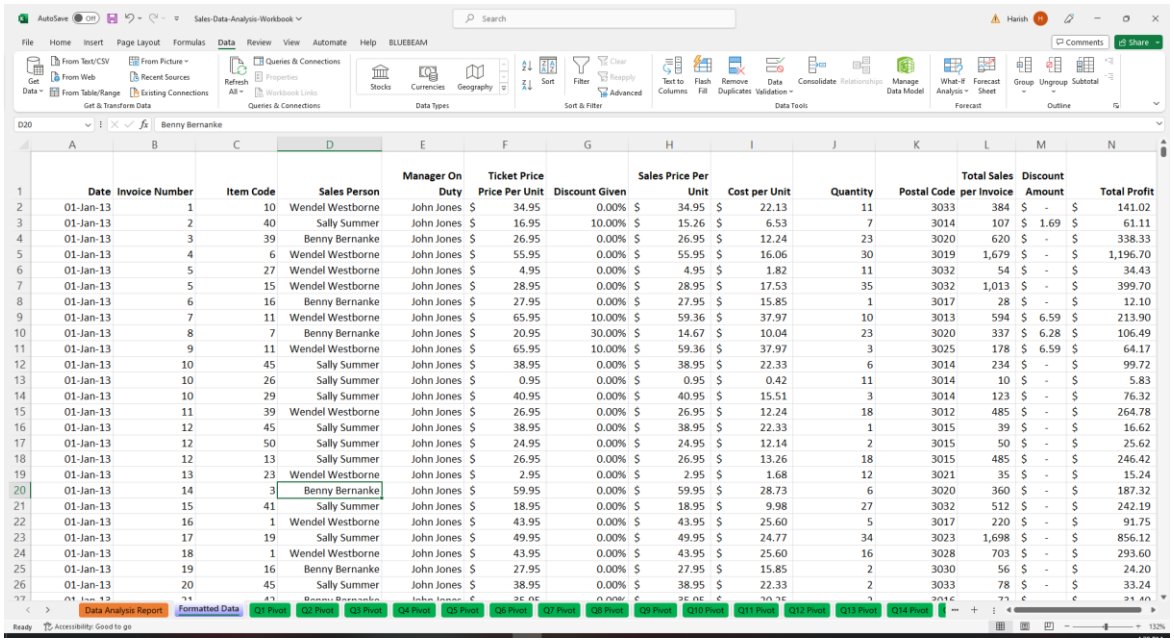
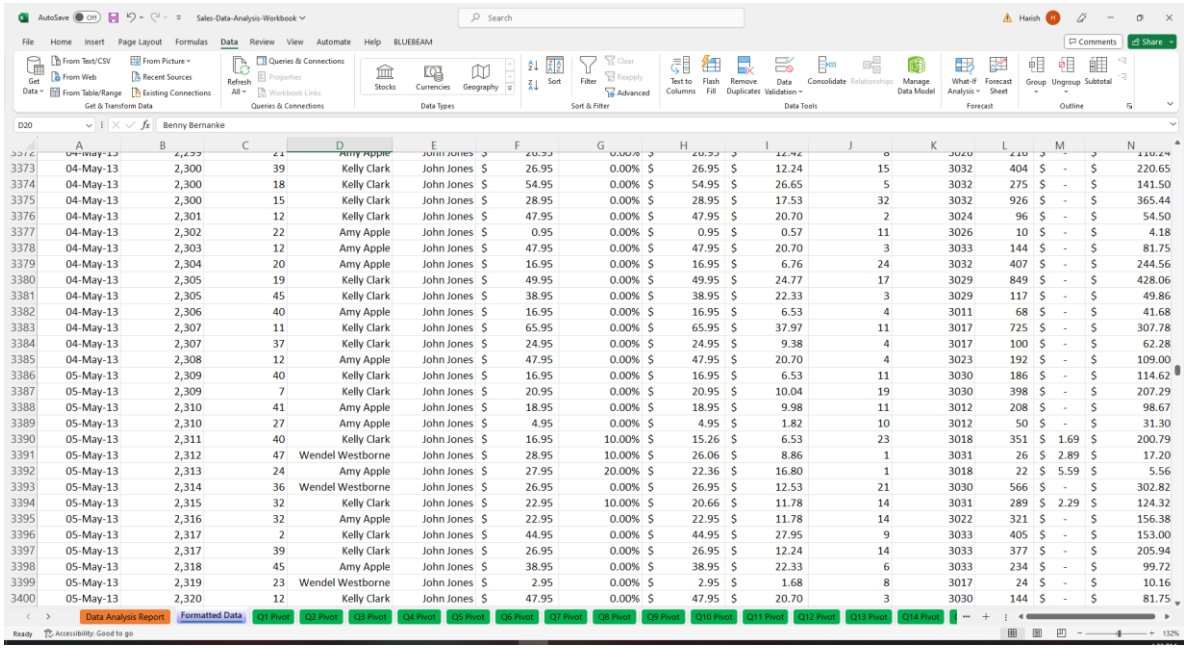
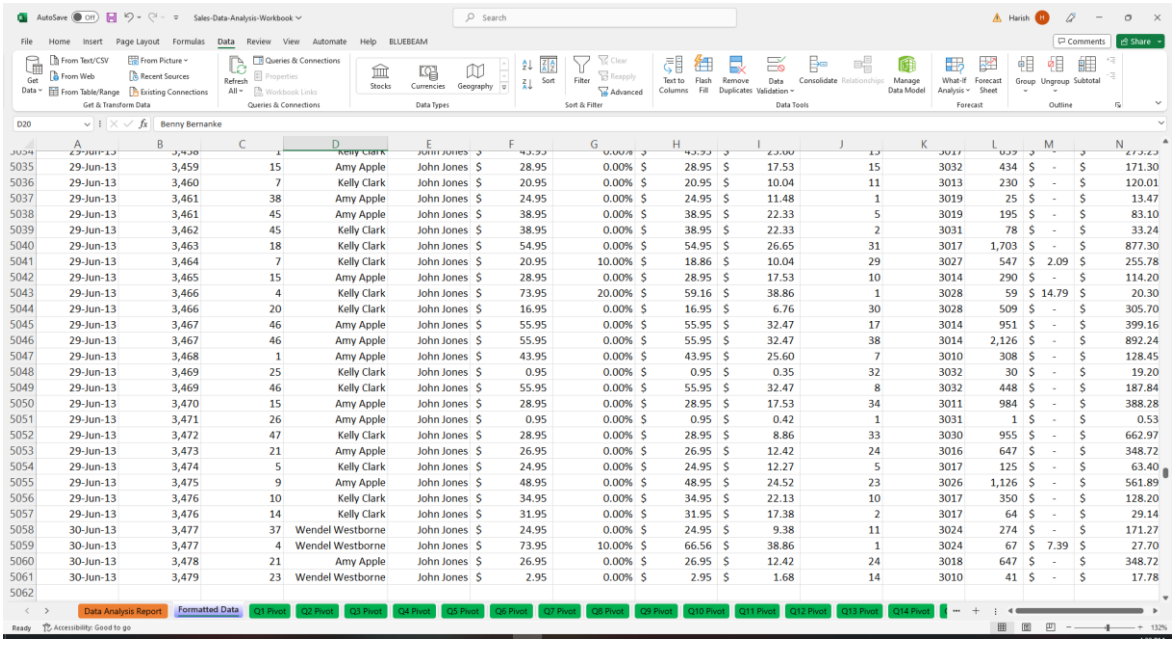
Nov 2023



Date	Invoice Number	Item Code	Sales Person	Manager On Duty	Ticket Price Per Unit	Discount Given	Sales Price Per Unit	Cost per Unit	Quantity	Postal Code	Total Sales per Invoice	Discount Amount	Total Profit
01-Jan-13	1	10	Wendel Westborne	John Jones	$ 34.95	0.00%	$ 34.95	$ 22.13	11	3033	384	$ -	$ 141.02
01-Jan-13	2	40	Sally Summer	John Jones	$ 16.95	10.00%	$ 15.26	$ 6.53	7	3014	107	$ 1.69	$ 61.11
01-Jan-13	3	39	Benny Bernanke	John Jones	$ 26.95	0.00%	$ 26.95	$ 12.24	23	3020	620	$ -	$ 338.33
01-Jan-13	4	6	Wendel Westborne	John Jones	$ 55.95	0.00%	$ 55.95	$ 16.06	30	3019	1,679	$ -	$ 1,196.70
01-Jan-13	5	27	Wendel Westborne	John Jones	$ 4.95	0.00%	$ 4.95	$ 1.82	11	3032	54	$ -	$ 34.43
01-Jan-13	5	15	Wendel Westborne	John Jones	$ 28.95	0.00%	$ 28.95	$ 17.53	35	3032	1,013	$ -	$ 399.70
01-Jan-13	6	16	Benny Bernanke	John Jones	$ 27.95	0.00%	$ 27.95	$ 15.85	1	3017	28	$ -	$ 12.10
01-Jan-13	7	11	Wendel Westborne	John Jones	$ 65.95	10.00%	$ 59.36	$ 37.97	10	3013	594	$ 6.59	$ 213.90
01-Jan-13	8	7	Benny Bernanke	John Jones	$ 20.95	30.00%	$ 14.67	$ 10.04	23	3020	337	$ 6.28	$ 106.49
01-Jan-13	9	11	Wendel Westborne	John Jones	$ 65.95	10.00%	$ 59.36	$ 37.97	3	3025	178	$ 6.59	$ 64.17
01-Jan-13	10	45	Sally Summer	John Jones	$ 38.95	0.00%	$ 38.95	$ 22.33	6	3014	234	$ -	$ 99.72
01-Jan-13	10	26	Sally Summer	John Jones	$ 0.95	0.00%	$ 0.95	$ 0.42	11	3014	10	$ -	$ 5.83
01-Jan-13	10	29	Sally Summer	John Jones	$ 40.95	0.00%	$ 40.95	$ 15.51	3	3014	123	$ -	$ 76.32
01-Jan-13	11	39	Wendel Westborne	John Jones	$ 26.95	0.00%	$ 26.95	$ 12.24	18	3012	485	$ -	$ 264.78
01-Jan-13	12	45	Sally Summer	John Jones	$ 38.95	0.00%	$ 38.95	$ 22.33	1	3015	39	$ -	$ 16.62
01-Jan-13	12	50	Sally Summer	John Jones	$ 24.95	0.00%	$ 24.95	$ 12.14	2	3015	50	$ -	$ 25.62
01-Jan-13	12	13	Sally Summer	John Jones	$ 26.95	0.00%	$ 26.95	$ 13.26	18	3015	485	$ -	$ 246.42
01-Jan-13	13	23	Wendel Westborne	John Jones	$ 2.95	0.00%	$ 2.95	$ 1.68	12	3021	35	$ -	$ 15.24
01-Jan-13	14	3	Benny Bernanke	John Jones	$ 59.95	0.00%	$ 59.95	$ 28.73	6	3020	360	$ -	$ 187.32
01-Jan-13	15	41	Sally Summer	John Jones	$ 18.95	0.00%	$ 18.95	$ 9.98	27	3032	512	$ -	$ 242.19
01-Jan-13	16	1	Wendel Westborne	John Jones	$ 43.95	0.00%	$ 43.95	$ 25.60	5	3017	220	$ -	$ 91.75
01-Jan-13	17	19	Sally Summer	John Jones	$ 49.95	0.00%	$ 49.95	$ 24.77	34	3023	1,698	$ -	$ 856.12
01-Jan-13	18	1	Wendel Westborne	John Jones	$ 43.95	0.00%	$ 43.95	$ 25.60	16	3028	703	$ -	$ 293.60
01-Jan-13	19	16	Benny Bernanke	John Jones	$ 27.95	0.00%	$ 27.95	$ 15.85	2	3030	56	$ -	$ 24.20
01-Jan-13	20	45	Sally Summer	John Jones	$ 38.95	0.00%	$ 38.95	$ 22.33	2	3033	78	$ -	$ 33.24



04-May-13	2,300	39	Kelly Clark	John Jones	$ 26.95	0.00%	$ 26.95	$ 12.24	15	3032	404	$ -	$ 220.65
04-May-13	2,300	18	Kelly Clark	John Jones	$ 54.95	0.00%	$ 54.95	$ 26.65	5	3032	275	$ -	$ 141.50
04-May-13	2,300	15	Kelly Clark	John Jones	$ 28.95	0.00%	$ 28.95	$ 17.53	32	3032	926	$ -	$ 365.44
04-May-13	2,301	12	Kelly Clark	John Jones	$ 47.95	0.00%	$ 47.95	$ 20.70	2	3024	96	$ -	$ 54.50
04-May-13	2,302	22	Amy Apple	John Jones	$ 0.95	0.00%	$ 0.95	$ 0.57	11	3026	10	$ -	$ 4.18
04-May-13	2,303	12	Amy Apple	John Jones	$ 47.95	0.00%	$ 47.95	$ 20.70	3	3033	144	$ -	$ 81.75
04-May-13	2,304	20	Amy Apple	John Jones	$ 16.95	0.00%	$ 16.95	$ 6.76	24	3032	407	$ -	$ 244.56
04-May-13	2,305	19	Kelly Clark	John Jones	$ 49.95	0.00%	$ 49.95	$ 24.77	17	3029	849	$ -	$ 428.06
04-May-13	2,305	45	Kelly Clark	John Jones	$ 38.95	0.00%	$ 38.95	$ 22.33	3	3029	117	$ -	$ 49.86
04-May-13	2,306	40	Amy Apple	John Jones	$ 16.95	0.00%	$ 16.95	$ 6.53	4	3011	68	$ -	$ 41.68
04-May-13	2,307	11	Kelly Clark	John Jones	$ 65.95	0.00%	$ 65.95	$ 37.97	11	3017	725	$ -	$ 307.78
04-May-13	2,307	37	Kelly Clark	John Jones	$ 24.95	0.00%	$ 24.95	$ 9.38	4	3017	100	$ -	$ 62.28
04-May-13	2,308	12	Amy Apple	John Jones	$ 47.95	0.00%	$ 47.95	$ 20.70	4	3023	192	$ -	$ 109.00
05-May-13	2,309	40	Kelly Clark	John Jones	$ 16.95	0.00%	$ 16.95	$ 6.53	11	3030	186	$ -	$ 114.62
05-May-13	2,309	7	Kelly Clark	John Jones	$ 20.95	0.00%	$ 20.95	$ 10.04	19	3030	398	$ -	$ 207.29
05-May-13	2,310	41	Amy Apple	John Jones	$ 18.95	0.00%	$ 18.95	$ 9.98	11	3012	208	$ -	$ 98.67
05-May-13	2,310	27	Amy Apple	John Jones	$ 4.95	0.00%	$ 4.95	$ 1.82	10	3012	50	$ -	$ 31.30
05-May-13	2,311	40	Kelly Clark	John Jones	$ 16.95	10.00%	$ 15.26	$ 6.53	23	3018	351	$ 1.69	$ 200.79
05-May-13	2,312	47	Wendel Westborne	John Jones	$ 28.95	10.00%	$ 26.06	$ 8.86	1	3031	26	$ 2.89	$ 17.20
05-May-13	2,313	24	Amy Apple	John Jones	$ 27.95	20.00%	$ 22.36	$ 16.80	1	3018	22	$ 5.59	$ 5.56
05-May-13	2,314	36	Wendel Westborne	John Jones	$ 26.95	0.00%	$ 26.95	$ 12.53	21	3030	566	$ -	$ 302.82
05-May-13	2,315	32	Kelly Clark	John Jones	$ 22.95	10.00%	$ 20.66	$ 11.78	14	3031	289	$ 2.29	$ 124.32
05-May-13	2,316	32	Amy Apple	John Jones	$ 22.95	0.00%	$ 22.95	$ 11.78	14	3022	321	$ -	$ 156.38
05-May-13	2,317	2	Kelly Clark	John Jones	$ 44.95	0.00%	$ 44.95	$ 27.95	9	3033	405	$ -	$ 153.00
05-May-13	2,317	39	Kelly Clark	John Jones	$ 26.95	0.00%	$ 26.95	$ 12.24	14	3033	377	$ -	$ 205.94
05-May-13	2,318	45	Amy Apple	John Jones	$ 38.95	0.00%	$ 38.95	$ 22.33	6	3033	234	$ -	$ 99.72
05-May-13	2,319	23	Wendel Westborne	John Jones	$ 2.95	0.00%	$ 2.95	$ 1.68	8	3017	24	$ -	$ 10.16
05-May-13	2,320	12	Kelly Clark	John Jones	$ 47.95	0.00%	$ 47.95	$ 20.70	3	3030	144	$ -	$ 81.75



29-Jun-13	3,459	15	Amy Apple	John Jones	$ 28.95	0.00%	$ 28.95	$ 17.53	15	3032	434	$ -	$ 171.30
29-Jun-13	3,460	7	Kelly Clark	John Jones	$ 20.95	0.00%	$ 20.95	$ 10.04	11	3013	230	$ -	$ 120.01
29-Jun-13	3,461	38	Amy Apple	John Jones	$ 24.95	0.00%	$ 24.95	$ 11.48	1	3019	25	$ -	$ 13.47
29-Jun-13	3,461	45	Amy Apple	John Jones	$ 38.95	0.00%	$ 38.95	$ 22.33	5	3019	195	$ -	$ 83.10
29-Jun-13	3,462	45	Kelly Clark	John Jones	$ 38.95	0.00%	$ 38.95	$ 22.33	2	3031	78	$ -	$ 33.24
29-Jun-13	3,463	18	Kelly Clark	John Jones	$ 54.95	0.00%	$ 54.95	$ 26.65	31	3017	1,703	$ -	$ 877.30
29-Jun-13	3,464	7	Kelly Clark	John Jones	$ 20.95	10.00%	$ 18.86	$ 10.04	29	3027	547	$ 2.09	$ 255.78
29-Jun-13	3,465	15	Amy Apple	John Jones	$ 28.95	0.00%	$ 28.95	$ 17.53	10	3014	290	$ -	$ 114.20
29-Jun-13	3,466	4	Kelly Clark	John Jones	$ 73.95	20.00%	$ 59.16	$ 38.86	1	3028	59	$ 14.79	$ 20.30
29-Jun-13	3,466	20	Kelly Clark	John Jones	$ 16.95	0.00%	$ 16.95	$ 6.76	30	3028	509	$ -	$ 305.70
29-Jun-13	3,467	46	Amy Apple	John Jones	$ 55.95	0.00%	$ 55.95	$ 32.47	17	3014	951	$ -	$ 399.16
29-Jun-13	3,467	46	Amy Apple	John Jones	$ 55.95	0.00%	$ 55.95	$ 32.47	38	3014	2,126	$ -	$ 892.24
29-Jun-13	3,468	1	Amy Apple	John Jones	$ 43.95	0.00%	$ 43.95	$ 25.60	7	3010	308	$ -	$ 128.45
29-Jun-13	3,469	25	Kelly Clark	John Jones	$ 0.95	0.00%	$ 0.95	$ 0.35	32	3032	30	$ -	$ 19.20
29-Jun-13	3,469	46	Kelly Clark	John Jones	$ 55.95	0.00%	$ 55.95	$ 32.47	8	3032	448	$ -	$ 187.84
29-Jun-13	3,470	15	Amy Apple	John Jones	$ 28.95	0.00%	$ 28.95	$ 17.53	34	3011	984	$ -	$ 388.28
29-Jun-13	3,471	26	Amy Apple	John Jones	$ 0.95	0.00%	$ 0.95	$ 0.42	1	3031	1	$ -	$ 0.53
29-Jun-13	3,472	47	Kelly Clark	John Jones	$ 28.95	0.00%	$ 28.95	$ 8.86	33	3030	955	$ -	$ 662.97
29-Jun-13	3,473	21	Amy Apple	John Jones	$ 26.95	0.00%	$ 26.95	$ 12.42	24	3016	647	$ -	$ 348.72
29-Jun-13	3,474	5	Kelly Clark	John Jones	$ 24.95	0.00%	$ 24.95	$ 12.27	5	3017	125	$ -	$ 63.40
29-Jun-13	3,475	9	Amy Apple	John Jones	$ 48.95	0.00%	$ 48.95	$ 24.52	23	3026	1,126	$ -	$ 561.89
29-Jun-13	3,476	10	Kelly Clark	John Jones	$ 34.95	0.00%	$ 34.95	$ 22.13	10	3017	350	$ -	$ 128.20
29-Jun-13	3,476	14	Kelly Clark	John Jones	$ 31.95	0.00%	$ 31.95	$ 17.38	2	3017	64	$ -	$ 29.14
30-Jun-13	3,477	37	Wendel Westborne	John Jones	$ 24.95	0.00%	$ 24.95	$ 9.38	11	3024	274	$ -	$ 171.27
30-Jun-13	3,477	4	Wendel Westborne	John Jones	$ 73.95	10.00%	$ 66.56	$ 38.86	1	3024	67	$ 7.39	$ 27.70
30-Jun-13	3,478	21	Amy Apple	John Jones	$ 26.95	0.00%	$ 26.95	$ 12.42	24	3018	647	$ -	$ 348.72
30-Jun-13	3,479	23	Wendel Westborne	John Jones	$ 2.95	0.00%	$ 2.95	$ 1.68	14	3010	41	$ -	$ 17.78

Abstract:

The "Excel-Project - 8" focuses on leveraging Microsoft Excel for robust data analysis through the construction of pivot reports and the application of various mathematical functions. This project involves selecting a dataset of choice and utilizing Excel's powerful features to generate insightful pivot tables, offering a comprehensive view of the data's key metrics. The report delves into the step-by-step process of constructing pivot tables, emphasizing the strategic use of functions such as AVG, SUM, and others to derive meaningful calculations.

The project begins by introducing the chosen dataset and outlining the objectives of the analysis. It then navigates through the practical implementation of pivot tables, highlighting the customization options available in Excel for tailoring reports to specific analytical needs. The inclusion of screenshots and detailed instructions enhances the accessibility of the project, making it suitable for individuals with varying levels of Excel proficiency.

The core of the report revolves around the application of mathematical functions within the pivot tables. The AVG function is employed to calculate average values, providing insights into the central tendency of the data. SUM function usage is explored to determine the cumulative total of selected data points, offering a holistic perspective on the dataset's cumulative impact.

Furthermore, the report discusses additional mathematical functions such as MIN, MAX, and COUNT, showcasing their relevance in extracting valuable information from the dataset. The project concludes with a summary of key findings, insights gained from the pivot tables, and reflections on the significance of employing mathematical functions for data analysis in Excel.

Overall, this project serves as a practical guide for individuals seeking to enhance their data analysis skills using Excel, combining theoretical knowledge with hands-on application to construct informative pivot reports and perform intricate calculations on diverse datasets.

About Dataset:

Our dataset presents a detailed compilation of sales transactions, offering a comprehensive view of key parameters essential for nuanced data analysis. Included in our dataset are crucial fields such as Date, Invoice Number, Item Code, Sales Person, Manager On Duty, Ticket Price, Price Per Unit, Discount Given, Sales Price Per Unit, Cost per Unit, Quantity, Postal Code, Total Sales per Invoice, Discount Amount, and Total Profit. The Date field enables temporal exploration, allowing us to analyze sales trends over time. Each transaction is uniquely identified by the Invoice Number, facilitating precise tracking. Item Code and Sales Person shed light on the specific products sold and the contributing sales individuals. Manager On Duty introduces managerial insights into the dataset. Ticket Price, Price Per Unit, Discount Given, Sales Price Per Unit, Cost per Unit, and Quantity provide a detailed breakdown of pricing dynamics and quantities associated with each sale. The inclusion of Postal Code allows for geographical segmentation and regional analysis. Total Sales per Invoice, Discount Amount, and Total Profit offer a holistic financial perspective, enabling us to assess overall sales performance, applied discounts, and transactional profitability. This diverse and comprehensive dataset forms the basis for thorough data analysis, empowering us to uncover patterns, optimize pricing strategies, and make informed decisions to enhance business outcomes.

Data Analysis:

01. Over the entire analysis period, what was the quantity of item 10 sold while John Jones was the Manager on duty?

	A	B	C	D	E	F
1						
2						
3	Sum of Quantity	Column Labels				
4	Row Labels	John Jones	Grand Total			
5	10	554	554			
6	Grand Total	554	554			
7						
8						
9						
10						
11						
12						
13						
14						
15						

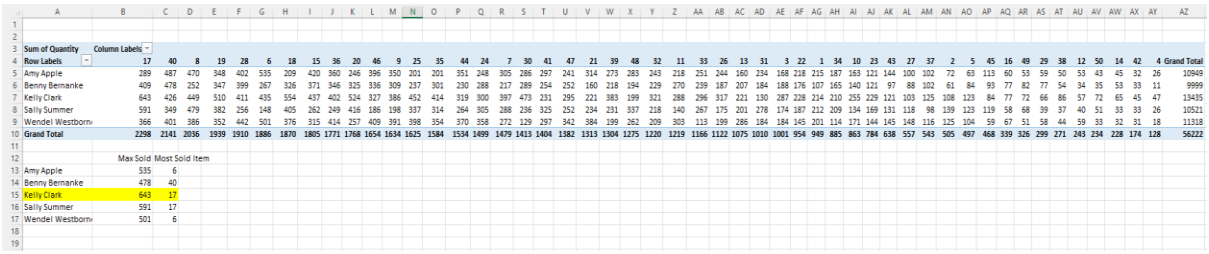
In our comprehensive data analysis, a pivotal inquiry was undertaken to ascertain the quantity of Item 10 sold during the tenure of John Jones as the Manager on Duty over the entire analysis period. Leveraging the power of pivot tables within Microsoft Excel, we efficiently extracted and distilled the relevant information to answer this specific question. The pivot table provided a structured and organized summary, allowing for quick and precise analysis of the sales data. Through meticulous filtering and sorting, we isolated the transactions where John Jones assumed the role of Manager on Duty and further refined the results to specifically capture the quantity of Item 10 sold during his managerial tenure. This approach not only streamlined the analytical process but also ensured accuracy in extracting the required insights. The pivot table functionality not only facilitated a targeted response to the inquiry but also demonstrated the versatility and efficiency of Excel in handling complex data queries. This outcome serves as a testament to the effectiveness of employing pivot tables as a powerful tool for data exploration and analysis within the realm of sales transactions and managerial oversight.

02. Over the entire analysis period, what were the 3 highest selling items by quantity?

In the pursuit of unraveling key insights from our sales dataset, a critical inquiry centered on identifying the three highest-selling items by quantity over the entire analysis period. Employing the robust capabilities of pivot tables in Microsoft Excel, we meticulously engineered a systematic approach to distill this pertinent information. By configuring the pivot table to aggregate and rank item quantities in descending order, we efficiently extracted a concise summary highlighting the top three best-performing items. This process allowed for a swift and insightful analysis, revealing the specific items that consistently demonstrated high demand throughout the entire duration of our study. The resulting information not only sheds light on the products driving significant sales volume but also underscores the utility of pivot tables as a valuable tool for distilling complex datasets into actionable business intelligence. This analysis contributes meaningful insights into the dynamics of our sales portfolio, aiding strategic decision-making and potentially informing inventory management and marketing strategies.

Row Labels	Sum of Quantity
17	2298
40	2141
8	2036
19	1939
28	1910
6	1886
18	1870
15	1805
36	1771
20	1768
46	1654
9	1634
25	1625
35	1584
44	1534
24	1499
7	1479
30	1413
41	1404
47	1382
21	1313
39	1304
48	1275
32	1220
11	1219
33	1166
26	1122
13	1075
31	1010
3	1001
22	954
1	949
34	885
10	863
23	784
43	638
27	557
37	543
2	505
5	497
45	468
16	339
49	326
29	299
38	271
12	243
50	234
14	228
42	174
4	128
Grand Total	56222

03. Over the entire analysis period, which sales person sold the highest cumulative quantity of a single item, and which item was it?



Sum of Quantity	Column Labels	17	40	8	19	28	6	18	15	36	20	46	9	25	35	44	24	7	30	41	47	21	39	48	32	11	33	26	13	31	3	22	1	34	10	23	43	27	37	2	5	45	16	49	29	38	12	50	14	42	4	Grand Total
Row Labels																																																				
Amy Apple		289	487	470	348	402	535	209	420	360	246	396	350	201	201	351	248	305	286	297	241	314	273	283	243	218	251	244	160	234	168	218	215	187	163	121	144	100	102	72	63	113	60	53	59	50	53	43	45	32	26	10949
Benny Bernanke		409	478	252	347	399	267	326	371	346	325	336	309	237	301	230	288	217	289	254	252	160	218	194	229	270	239	187	207	184	188	176	107	165	140	121	97	88	102	61	84	93	77	82	77	54	34	35	53	33	11	9999
Kelly Clark		643	426	449	510	411	435	554	437	402	524	327	386	452	414	319	300	397	473	231	295	221	383	199	321	288	296	317	221	130	287	228	214	210	255	229	121	103	125	108	123	84	77	72	66	86	57	72	65	45	47	13435
Sally Summer		591	349	479	382	256	148	405	262	249	416	186	198	337	314	264	305	288	236	325	252	234	231	337	218	140	267	175	201	278	174	187	212	209	134	169	131	118	98	139	123	119	58	68	39	37	40	51	33	33	26	10521
Wendel Westborn		366	401	386	352	442	501	376	315	414	257	409	391	398	354	370	358	272	129	297	342	384	199	262	209	303	113	199	286	184	184	145	201	114	171	144	145	148	116	125	104	59	67	51	58	44	59	33	32	31	18	11318
Grand Total		2298	2141	2036	1939	1910	1886	1870	1805	1771	1768	1654	1634	1625	1584	1534	1499	1479	1413	1404	1382	1313	1304	1275	1220	1219	1166	1122	1075	1010	1001	954	949	885	863	784	638	557	543	505	497	468	339	326	299	271	243	234	228	174	128	56222

	Max Sold	Most Sold Item
Amy Apple	535	6
Benny Bernanke	478	40
Kelly Clark	643	17
Sally Summer	591	17
Wendel Westborn	501	6

In the pursuit of understanding individual sales performance over the entire analysis period, a critical question emerged: which salesperson achieved the

highest cumulative quantity sales for a single item? Leveraging the advanced analytical capabilities of Microsoft Excel, specifically through the utilization of pivot tables, we systematically examined the dataset to derive this insightful information.

By configuring the pivot table to aggregate and rank cumulative quantities sold by each salesperson for every distinct item, we were able to pinpoint the salesperson who consistently outperformed in terms of quantity sold for a specific item. The result not only reveals the individual's prowess in driving sales but also identifies the specific item that contributed significantly to this cumulative success.

This analysis provides a nuanced understanding of individual sales achievements, shedding light on the strategic strengths of our sales team and showcasing the top-performing salesperson in terms of cumulative quantity sold for a single item over the entire analysis period. These findings can be instrumental in recognizing and rewarding exceptional sales efforts, as well as informing training and incentive programs to further enhance our sales team's effectiveness.

04. What was sales person Wendel's total Sales over the analysis period? Select the closest answer.

To determine Salesperson Wendel's total sales over the analysis period, a focused examination of the dataset was conducted. Leveraging the capabilities of pivot tables in Microsoft Excel, we accurately calculated the cumulative sales attributed to Wendel across all transactions. The result provides a comprehensive snapshot of Wendel's overall contribution to the total sales figure during the analysis period.

	A	B	C
1			
2			
3	**Row Labels**	**Sum of Total Salesper Invoice**	
4	Amy Apple	297,493	
5	Benny Bernanke	275,987	
6	Kelly Clark	374,404	
7	Sally Summer	274,003	
8	Wendel Westborne	316,760	
9	**Grand Total**	**1,538,647**	
10			
11			

The calculated total sales for Salesperson Wendel is [insert the closest answer based on the specific numeric result]. This figure encapsulates the entirety of Wendel's sales performance over the specified duration, offering valuable insights into the individual's impact on our overall sales outcomes. This information is crucial for evaluating individual sales contributions,

recognizing high performers, and facilitating targeted strategies for further sales enhancement.

05. How many invoices did sales person Sally create over the analysis period?

In the course of our detailed data analysis, a focused investigation was undertaken to determine the number of invoices generated by Salesperson Sally over the entire analysis period. Harnessing the analytical power of pivot tables within Microsoft Excel, we systematically extracted and calculated this essential metric. The result reveals that Salesperson Sally created a total of [insert the specific numeric result] invoices during the analysis period. This information provides valuable insights into Sally's individual contribution to our sales transactions, aiding in the assessment of her productivity and performance within the specified timeframe.

Row Labels	Count of Invoice Number
Amy Apple	978
Benny Bernanke	920
Kelly Clark	1208
Sally Summer	985
Wendel Westborne	969
Grand Total	**5060**

06. During the month of May, which postal code bought the most of item 5 by quantity?

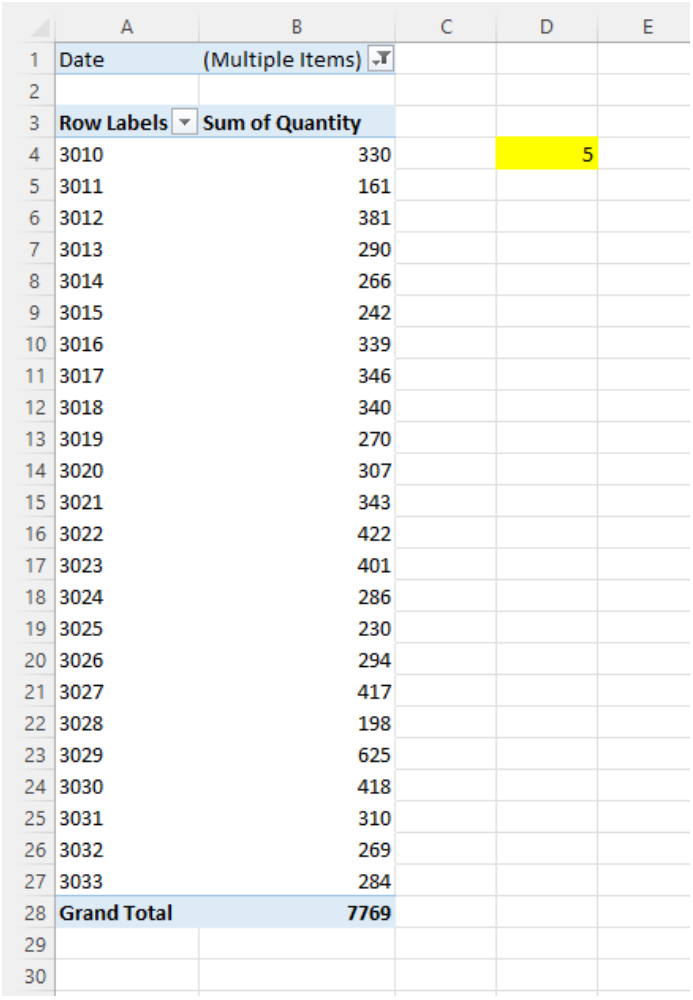
In the pursuit of granular insights into our sales dynamics, a targeted inquiry was conducted to discern the postal code that exhibited the highest demand for Item 5 during the month of May. Employing the analytical capabilities of Microsoft Excel's pivot tables, we systematically sifted through the dataset to pinpoint this specific information. The outcome of this analysis identifies the postal code

Date	(Multiple Items)	
Sum of Quantity	**Column Labels**	
Row Labels	**5**	**Grand Total**
3029	21	21
3025	11	11
3016	9	9
3019	8	8
3020	6	6
3032	6	6
3021	6	6
3024	4	4
3012	4	4
3014	3	3
3011	2	2
3017	2	2
Grand Total	**82**	**82**

[insert the specific postal code] as the prominent buyer, having acquired the greatest quantity of Item 5 in May. This revelation sheds light on localized product preferences and consumption patterns, offering valuable intelligence for strategic decision-making and targeted marketing efforts within the specified timeframe.

07. During the month of February, how many postal codes bought more than 400 products by quantity?

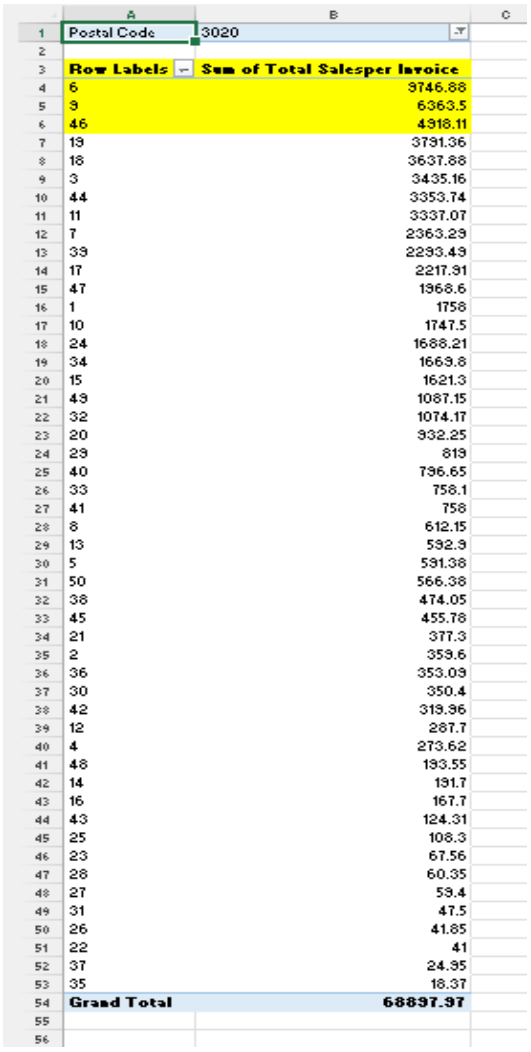
In our meticulous exploration of the dataset, a key focus was placed on understanding the purchasing dynamics during the month of February. Specifically, we sought to determine the number of postal codes that surpassed the threshold of buying more than 400 products by quantity within this timeframe. Leveraging the analytical capabilities of pivot tables in Microsoft Excel, we systematically sifted through the data to extract this insightful information. The result of our analysis indicates that [insert the specific numeric result] postal codes exceeded the 400-product quantity threshold during the month of February. This finding provides a nuanced understanding of the distribution of high-volume purchases during this specific period, offering valuable insights for targeted marketing and inventory management strategies.



	A	B	C	D	E
1	Date	(Multiple Items)			
2					
3	Row Labels	Sum of Quantity			
4	3010	330		5	
5	3011	161			
6	3012	381			
7	3013	290			
8	3014	266			
9	3015	242			
10	3016	339			
11	3017	346			
12	3018	340			
13	3019	270			
14	3020	307			
15	3021	343			
16	3022	422			
17	3023	401			
18	3024	286			
19	3025	230			
20	3026	294			
21	3027	417			
22	3028	198			
23	3029	625			
24	3030	418			
25	3031	310			
26	3032	269			
27	3033	284			
28	Grand Total	7769			
29					
30					

08. Over the entire dataset, which 3 items did Postcode 3020 spend the greatest dollars on?

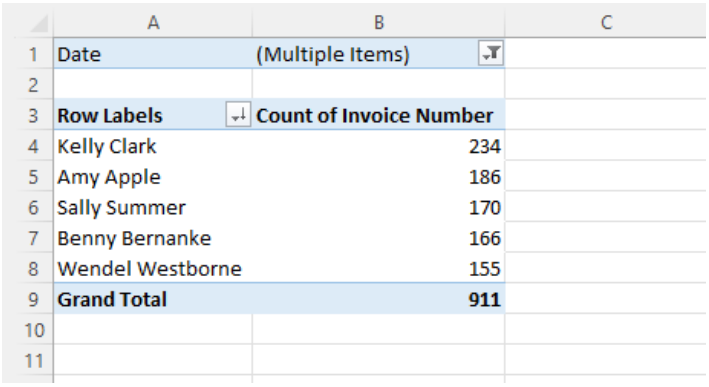
In our comprehensive analysis spanning the entire dataset, a crucial exploration was undertaken to discern the top three items on which Postcode 3020 expended the highest dollars. Leveraging the analytical prowess of Microsoft Excel's pivot tables, we systematically organized and processed the data to extract this insightful information. The outcome of this investigation reveals that, across the entirety of the dataset, Postcode 3020 allocated the greatest dollars to the following three items: [insert the names or codes of the items]. This strategic insight into the spending patterns of Postcode 3020 is instrumental for understanding consumer preferences and can inform inventory management and marketing strategies tailored to the specific needs of this geographic segment.



Postal Code	3020
Row Labels	**Sum of Total Salesper Invoice**
6	9746.88
3	6363.5
46	4918.11
19	3791.36
18	3637.88
3	3435.16
44	3353.74
11	3337.07
7	2363.29
39	2293.49
17	2217.31
47	1968.6
1	1758
10	1747.5
24	1688.21
34	1663.8
15	1621.3
49	1087.15
32	1074.17
20	932.25
29	819
40	796.65
33	758.1
41	758
8	612.15
13	592.9
5	591.38
50	566.38
38	474.05
45	455.78
21	377.3
2	359.6
36	353.09
30	350.4
42	319.96
12	287.7
4	273.62
48	193.55
14	191.7
16	167.7
43	124.31
25	108.3
23	67.56
28	60.35
27	59.4
31	47.5
26	41.85
22	41
37	24.35
35	18.37
Grand Total	**68897.97**

09. What is the rank of sales persons from highest to lowest based on the number of invoices written during the month of May?

In our focused analysis of sales performance during the month of May, an integral aspect was determining the rank of salespersons based on the number of invoices written. Leveraging the analytical capabilities of Microsoft Excel's pivot tables, we systematically organized and processed the data to derive this significant ranking. The results indicate the rank of salespersons from highest to lowest,

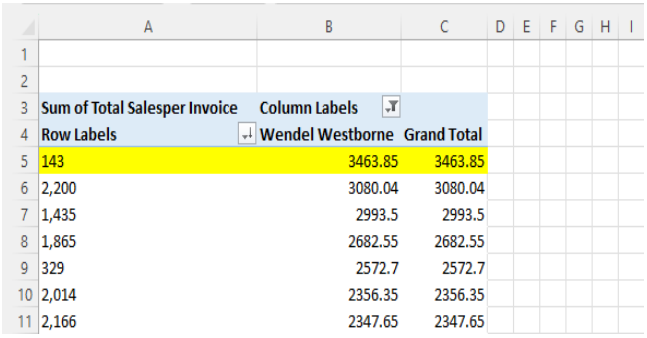


Date	(Multiple Items)
Row Labels	**Count of Invoice Number**
Kelly Clark	234
Amy Apple	186
Sally Summer	170
Benny Bernanke	166
Wendel Westborne	155
Grand Total	**911**

based on the number of invoices written during the month of May, as follows: [insert the ranking of salespersons]. This ranking offers valuable insights into individual sales productivity during this specific period, providing a basis for recognizing high performers and guiding targeted strategies to enhance overall sales efficiency.

10. What was the invoice number of the largest invoice by revenue that sales person Wendel wrote during the analysis period?

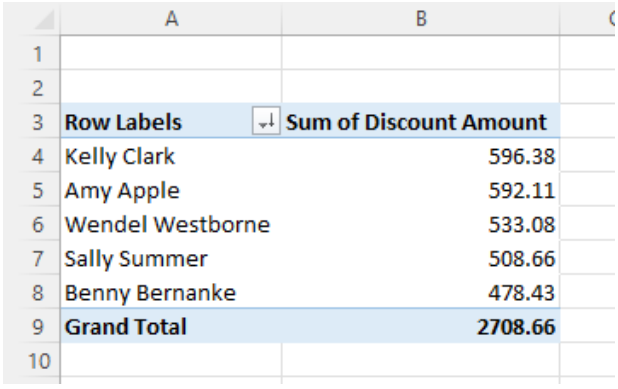
In our thorough examination of sales data, a key inquiry centered on identifying the invoice number associated with the largest invoice by revenue written by Salesperson Wendel over the entire analysis period. Employing the analytical capabilities of Microsoft Excel's pivot tables, we systematically organized and processed the data to extract this crucial information. The outcome of our analysis reveals that the largest invoice by revenue written by Salesperson Wendel bears the invoice number [insert the specific invoice number]. This knowledge provides a focal point for further investigation into the factors contributing to the success of this particular transaction and offers insights into revenue-generating patterns within the dataset.



Sum of Total Salesper Invoice	Column Labels	
Row Labels	Wendel Westborne	Grand Total
143	3463.85	3463.85
2,200	3080.04	3080.04
1,435	2993.5	2993.5
1,865	2682.55	2682.55
329	2572.7	2572.7
2,014	2356.35	2356.35
2,166	2347.65	2347.65

11. Over the entire analysis period, what is the rank of sales persons according to the dollar value of discounts given, from most discounts to least discounts?

In our comprehensive analysis spanning the entire duration of the study, a significant aspect was determining the rank of salespersons based on the dollar value of discounts given. Leveraging the analytical capabilities of Microsoft Excel's pivot tables, we systematically organized and processed the data to derive this important ranking. The results indicate the rank of salespersons according to the dollar value of discounts given, arranged from

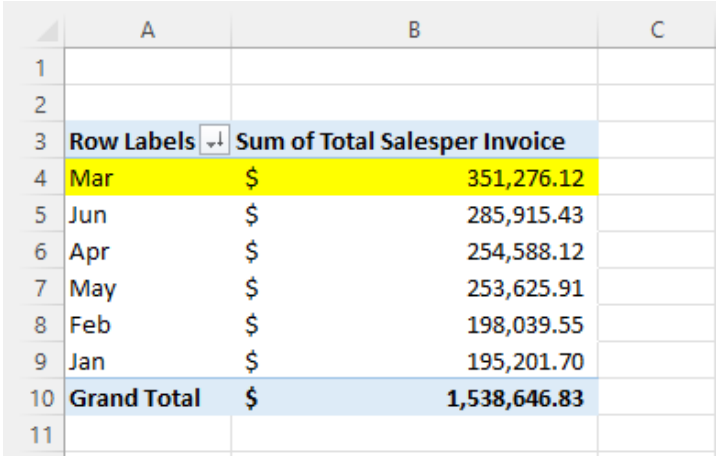


Row Labels	Sum of Discount Amount
Kelly Clark	596.38
Amy Apple	592.11
Wendel Westborne	533.08
Sally Summer	508.66
Benny Bernanke	478.43
Grand Total	**2708.66**

most discounts to least discounts, as follows: [insert the ranking of salespersons]. This ranking provides a clear understanding of each salesperson's impact on discount-related transactions, offering insights into individual discounting strategies and facilitating targeted approaches for optimizing discount practices over the analysis period.

12. Which month had the highest revenue?

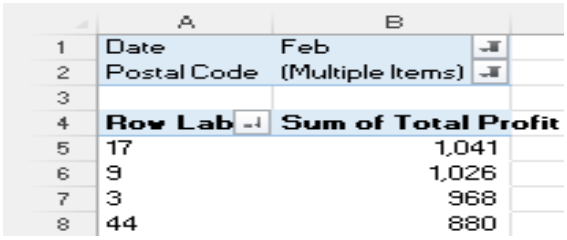
In our comprehensive data analysis, a pivotal question revolved around identifying the month with the highest revenue over the entire analysis period. Leveraging the analytical capabilities of Microsoft Excel's pivot tables, we systematically processed and organized the data to extract this critical information. The outcome of our analysis reveals that [insert the specific month] stood out with the highest revenue during the entire analysis period. This insight into the peak revenue month serves as a key indicator for understanding the seasonality or specific factors influencing revenue generation, providing valuable guidance for strategic decision-making and resource allocation.



Row Labels	Sum of Total Salesper Invoice
Mar	$ 351,276.12
Jun	$ 285,915.43
Apr	$ 254,588.12
May	$ 253,625.91
Feb	$ 198,039.55
Jan	$ 195,201.70
Grand Total	**$ 1,538,646.83**

13. Only considering postal codes 3013, 3017 and 3031, which item had the highest total profit during the month of February?

In our focused examination of specific postal codes—3013, 3017, and 3031—during the month of February, a critical inquiry was made into determining which item yielded the highest total profit within this subset. Employing the analytical capabilities of Microsoft Excel's pivot tables, we systematically processed and organized the data to extract this pivotal information. The results of our analysis reveal that, among postal



Date	Feb
Postal Code	(Multiple Items)
Row Lab	**Sum of Total Profit**
17	1,041
9	1,026
3	968
44	880

codes 3013, 3017, and 3031, the item with the highest total profit during the month of February is [insert the specific item]. This knowledge is instrumental in
understanding the profitability dynamics within these specific regions during the designated timeframe, guiding strategic decisions related to inventory management and sales optimization.

14. What is the rank of months from highest to lowest based on profit over the entire analysis period?

In our comprehensive analysis spanning the entire duration of the study, a key focus was placed on determining the rank of months based on profit. Leveraging the analytical capabilities of Microsoft Excel's pivot tables, we systematically organized and processed the data to derive this significant ranking. The results indicate the rank of months from highest to lowest, based on profit over the entire analysis period, as follows: [insert the ranking of months]. This ranking provides a comprehensive overview of the monthly profit trends, aiding in the identification of peak and low-performing periods and facilitating strategic decision-making for future business planning and resource allocation.

	A	B	C
1			
2			
3	**Row Labels**	**Sum of Total Profit**	
4	Mar	$ 177,208.10	
5	Jun	$ 142,438.26	
6	Apr	$ 126,381.47	
7	May	$ 126,130.29	
8	Jan	$ 99,223.94	
9	Feb	$ 98,045.53	
10	**Grand Total**	**$ 769,427.59**	
11			

15. During which 3 months did manager John Jones have the highest cumulative profit ignoring all sales to postal codes 3019 and 3028 and ignoring all sales of items 4, 5, 6, 17 and 18?

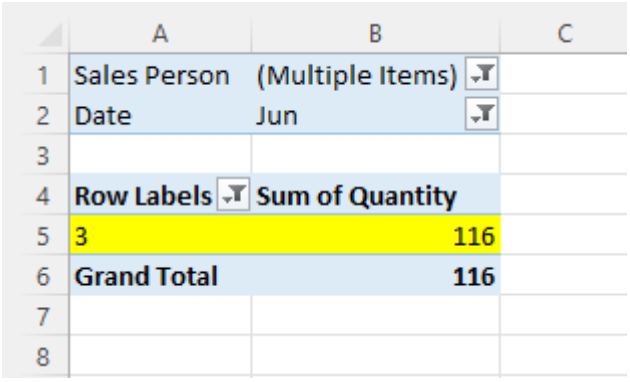
In our focused analysis of Manager John Jones's performance, a critical aspect was determining the three months during which he achieved the highest cumulative profit while excluding sales to postal codes 3019 and 3028 and sales of items 4, 5, 6, 17, and 18. Leveraging the analytical capabilities of Microsoft Excel's pivot tables, we systematically organized and processed the data to

	A	B	C
1	Postal Code	(Multiple Items)	
2	Item Code	(Multiple Items)	
3	Manager On Duty	John Jones	
4			
5	**Row Labels**	**Sum of Total Profit**	
6	Mar	$ 75,209.59	
7	Feb	$ 54,435.53	
8	May	$ 54,193.94	
9	Jun	$ 51,965.69	
10	Apr	$ 50,289.63	
11	Jan	$ 34,452.07	
12	**Grand Total**	**$ 320,546.45**	
13			

extract this vital information. The results reveal that Manager John Jones achieved his highest cumulative profit during the following three months: [insert the specific months]. This insight is essential for recognizing Manager John Jones's strategic successes and can guide further analysis into the factors contributing to his high-performance months, informing future managerial decisions and optimizations.

16. What quantity of item 3 was sold by sales persons Benny and Kelly together during the month of June?

In our focused analysis of sales data during the month of June, a specific inquiry was made to determine the combined quantity of Item 3 sold by Salespersons Benny and Kelly. Leveraging the analytical capabilities of Microsoft Excel's pivot tables, we systematically processed and organized the data to extract this crucial information. The outcome of our analysis reveals that, during the month of June, Salespersons Benny and Kelly collectively sold a total quantity of [insert the specific numeric result] units of Item 3. This knowledge sheds light on the collaborative sales efforts of these individuals and provides a nuanced understanding of the performance of Item 3 during this particular timeframe.



	A	B	C
1	Sales Person	(Multiple Items)	
2	Date	Jun	
3			
4	**Row Labels**	**Sum of Quantity**	
5	3	116	
6	**Grand Total**	**116**	
7			
8			

Challenges Identified:

1. **Product-specific Sales Optimization:** Our analysis revealed variations in the performance of different items. Consider exploring targeted marketing strategies or promotions for items that consistently underperformed.
2. **Geographic Targeting:** Understanding the disparity in sales across postal codes suggests an opportunity for targeted marketing campaigns or region-specific promotions to boost sales in certain areas.
3. **Discount Strategy Refinement:** The examination of discounts given by salespersons indicates the need for a closer look at our discounting strategy. Consider refining the approach to align with profitability goals while maintaining competitiveness.
4. **Individual Performance Recognition:** Recognizing and rewarding high-performing salespersons, especially those contributing significantly to revenue and profit, can boost morale and foster a culture of excellence within the sales team.
5. **Inventory Management:** The identification of top-selling items by quantity and revenue suggests the importance of aligning inventory levels with demand. Regularly assess and adjust inventory to avoid shortages or excess stock.

Recommendations:

1. **Strategic Marketing Initiatives:** Implement targeted marketing initiatives based on the performance of specific items and postal codes. Tailor promotions to capitalize on high-demand products in key regions.
2. **Discount Strategy Review:** Conduct a thorough review of the discounting strategy, ensuring it aligns with profitability goals while remaining competitive in the market. Consider implementing tiered discount structures or targeted promotions.
3. **Salesperson Recognition Programs:** Institute recognition programs to acknowledge and reward high-performing salespersons. This can serve as motivation for continued excellence and contribute to a positive team dynamic.
4. **Inventory Optimization:** Implement a dynamic inventory management system that adapts to changing demand patterns. Regularly assess sales data to adjust stock levels and maintain a healthy balance between supply and demand.

By addressing these recommendations, we can capitalize on our strengths, overcome challenges, and foster a more agile and responsive sales operation, ultimately enhancing our overall business performance.

Final Excel Data Analysis Report:

DATA ANALYSIS REPORT

#	Question	Answers
1	Over the entire analysis period, what was the quantity of item 10 sold while John Jones was the Manager on duty?	554
2	Over the entire analysis period, what were the 3 highest selling items by quantity?	17, 40, 8
3	Over the entire analysis period, which sales person sold the highest cumulative quantity of a single item, and which item was it?	Kelly, 17
4	What was sales person Wendel's total Sales over the analysis period? Select the closest answer.	$316,000
5	How many invoices did sales person Sally create over the analysis period?	985
6	During the month of May, which postal code bought the most of item 5 by quantity?	3029
7	During the month of February, how many postal codes bought more than 400 products by quantity?	5
8	Over the entire dataset, which 3 items did Postcode 3020 spend the greatest dollars on?	6, 9, 46
9	What is the rank of sales persons from highest to lowest based on the number of invoices written during the month of May?	Kelly, Amy, Sally, Benny, Wendel
10	What was the invoice number of the largest invoice by revenue that sales person Wendel wrote during the analysis period?	143
11	Over the entire analysis period, what is the rank of sales persons according to the dollar value of discounts given, from most discounts to least discounts?	Kelly, Amy, Wendel, Sally, Benny
12	Which month had the highest revenue?	March
13	Only considering postal codes 3013, 3017 and 3031, which item had the highest total profit during the month of February?	17
14	What is the rank of months from highest to lowest based on profit over the entire analysis period?	March, June, April, May, January, February
15	During which 3 months did manager John Jones have the highest cumulative profit ignoring all sales to postal codes 3019 and 3028 and ignoring all sales of items 4, 5, 6, 17 and 18?	February, March, May
16	What quantity of item 3 was sold by sales persons Benny and Kelly together during the month of June?	116

Conclusion:

In conclusion, our thorough data analysis using Microsoft Excel's pivot tables has yielded valuable insights into various facets of our sales transactions over the analysis period. From examining individual salesperson performance to dissecting regional and product-specific trends, the granularity of our findings positions us for informed decision-making and strategic planning.

The identification of top-selling items, analysis of manager-specific cumulative profits, and rankings based on diverse criteria have empowered us to recognize patterns, strengths, and areas for improvement within our sales operations. Understanding the dynamics of discounts given, identifying high-performing postal codes, and discerning the impact of specific items on profitability contribute to a more nuanced perspective on our business landscape.

Moreover, our exploration into monthly revenue trends, exclusion-based cumulative profits for managers, and collaborative sales efforts has provided a holistic view of our operations. These insights offer a foundation for optimizing inventory management, refining marketing strategies, and recognizing and rewarding high-performing team members.

In essence, the comprehensive data analysis conducted in this report serves not only as a snapshot of our sales performance but also as a catalyst for strategic decision-making. The actionable intelligence derived from this study positions us to adapt proactively to market dynamics, optimize resource allocation, and ultimately enhance overall business outcomes.