

SQL and Power BI Challenge Questions

SQL Questions

1. List all sales with product names and sale amounts.

Results		Messages
	product	Total_Sales
1	Power BI	421770.00
2	OneNote	369068.00
3	Word	267120.00
4	PowerApps	235224.00
5	XBOX	226720.00
6	PowerPoint	212960.00
7	Excel	209600.00
8	XBOX ONE	206000.00
9	Publisher	156400.00
10	Kaizala	138800.00
11	Skype	122490.00
12	Teams	119448.00
13	SharePoint	111000.00
14	Access	85400.00
15	Stream	76896.00
16	Exchange	76400.00
17	Planner	70408.00
18	Outlook	63744.00
19	Forms	63080.00
20	Yammer	62080.00
21	Visio	49840.00
22	OneDrive	32984.00
23	To-Do	24684.00
24	Flow	21924.00

2. Show all unique customers who made purchases in January 2019.

Results		Messages
	#customer	
1	6005	

3. Get the number of products sold per store.

Results Messages		
	#products	store
1	2868	14
2	5180	6
3	7260	13
4	4176	3
5	3128	8
6	5042	7
7	3394	10
8	3120	4
9	3686	1
10	2854	12
11	7054	5
12	5386	11
13	6602	2

4. Retrieve a list of products with prices greater than \$70.

Results Messages		
	product	price
1	OneNote	98
2	PowerPoint	80
3	Publisher	85
4	Power BI	85

5. Count how many customers belong to each age group.

Results Messages		
	#customers	age_group
1	11997	21 to 25 years
2	8654	26 to 30 years
3	5951	15 to 20 years
4	3273	31 to 35 years

6. Calculate the total revenue per product category.

Results Messages		
	category	total_revenue
1	Office 365	2312402.00
2	Power Platform	678918.00
3	XBOX	432720.00

7. Find the top 5 products by number of units sold.

Results Messages		
	product	number_of_units_sold
1	PowerApps	6534
2	XBOX	5668
3	XBOX ONE	5150
4	Power BI	4962
5	Teams	4266

8. Show the average sales amount per store.

	store	average_sales_amount
1	Salvus	60.4185
2	Abbas	58.3787
3	Pomum	58.1916
4	Contoso	58.0997
5	Leo	57.681
6	Aliqui	57.6767
7	VanArsdel	56.9916
8	Pirum	56.8249
9	Barba	56.8022
10	Fama	56.5029
11	Natura	55.693
12	Quibus	55.3812
13	Victoria	54.8451

9. Identify which stores have sold more than 500 units in total.

	store	#units
1	Contoso	8344
2	Fama	8134
3	Aliqui	7756
4	Pomum	6258
5	Leo	6002
6	VanArsdel	5878
7	Barba	4846
8	Abbas	4304
9	Pirum	3964
10	Salvus	3668
11	Natura	3584
12	Victoria	3340
13	Quibus	3314

10. List customers who made more than one purchase.

	id	#purchase
1	84824409010107	2
2	138853915511009	2
3	219236420421670	2
4	235727027522335	2
5	242586630023947	2
6	254102455225346	2
7	113204102311706	2
8	222678168717475	2
9	235593279627348	2
10	243564224428640	2
11	593944388459	2
12	5999965703089	2
13	165280998314679	2
14	184187174612956	2
15	185522980213139	2
16	192107281516779	2
17	255055428925865	2
18	258260032729839	2
19	228781360120421	2
20	233309069125737	2
21	235109311529275	2
22	235741859426588	2
23	247423446025817	2
24	253715666525088	2
25	6208322167116	2

11. Find stores that failed to meet their net sales goals.

Results		Messages	
storeid	total_sales	Net_Sales_Goal	

12. Identify the age groups that generated the highest total revenue.

Results		Messages
	age_group	Total_revenue
1	21 to 25 years	48460870.00
2	26 to 30 years	34864662.00
3	15 to 20 years	23891888.00
4	31 to 35 years	12942312.00

13. Show product segments with average prices above the overall average.

Results Messages

	segment	average_price
1	Cyan	48.25
2	Magenta	67
3	Orange	80
4	Turquoise	55
5	Yellow	85

14. Find customers who bought products from at least 3 different categories.

Results	Messages
id	#categories

15. Calculate the sales achievement % per store region.

Results Messages

	Region	sales_achievement_percent
1	Southwest	1.66
2	Atlantic	0.57
3	Flat Plains	0.52
4	Great Lakes	0.37
5	Far West	0.25
6	Rocky Mountains	0.22

16. Identify stores with declining weekly sales trends.

Results		Messages
	storeid	
1	1	
2	2	
3	3	
4	4	
5	5	
6	6	
7	7	
8	8	
9	10	
10	11	
11	12	
12	13	
13	14	

17. Determine which product segment contributes the most to total sales revenue.

Results			Messages
	segment	Total_sales	
1	Magenta	604292.00	
2	Green	432720.00	
3	Yellow	421770.00	
4	Cyan	401434.00	
5	Royal Blue	341644.00	
6	Turquoise	330480.00	
7	Jade	280008.00	
8	Orange	212960.00	
9	Red	162296.00	
10	Purple	119448.00	
11	Blue	95064.00	
12	Neon Blue	21924.00	

18. List the top 3 performing stores in each region based on revenue.

Results				Messages
	Region	storeid	Revenue	
1	Great Lakes	13	421804.00	
2	Flat Plains	5	398572.00	
3	Far West	2	380782.00	

19. Find the number of unique customers served per store.

Results Messages		
	number_of_unique_customers	storeid
1	1843	1
2	3301	2
3	2088	3
4	1560	4
5	3527	5
6	2590	6
7	2521	7
8	1564	8
9	1697	10
10	2693	11
11	1427	12
12	3630	13
13	1434	14

20. Retrieve sales data where the product belongs to a category starting with 'Office'.

Results Messages															
ID	Date	Amount	ProductID	Status	StoreID	Unit	Product	ProductID	Category	CategoryID	Segment	SegmentID	Product Image	Category Image	
1	1515142996	2019-01-06 00:00:00.000	70.00	11	Sold	6	1	Word	11	Office 365	1	Royal Blue	2	https://magizer.imageshack.com/img922/9264/ITdYvM...	https://magizer.imageshack.com/in...
2	5029132964	2019-01-27 00:00:00.000	32.00	14	Sold	2	1	Yammer	14	Office 365	1	Blue	2	https://magizer.imageshack.com/img922/9221/8MnP4...	https://magizer.imageshack.com/in...
3	5701775629	2019-01-27 00:00:00.000	56.00	21	Sold	11	2	Teams	21	Office 365	1	Purple	9	https://magizer.imageshack.com/img923/2618/Osa/Y1...	https://magizer.imageshack.com/in...
4	5885927921	2019-01-27 00:00:00.000	56.00	21	Sold	3	2	Teams	21	Office 365	1	Purple	9	https://magizer.imageshack.com/img923/2618/Osa/Y1...	https://magizer.imageshack.com/in...
5	12455113623	2019-01-06 00:00:00.000	60.00	8	Sold	12	1	SharePoint	8	Office 365	1	Turquoise	3	https://magizer.imageshack.com/img923/8037/3vnZQ...	https://magizer.imageshack.com/in...
6	20193031550	2019-01-06 00:00:00.000	28.00	21	Sold	6	1	Teams	21	Office 365	1	Purple	9	https://magizer.imageshack.com/img923/2618/Osa/Y1...	https://magizer.imageshack.com/in...
7	21246538910	2019-01-06 00:00:00.000	50.00	17	Sold	13	1	Kaizala	17	Office 365	1	Cyan	1	https://magizer.imageshack.com/img921/9127/XOOxK...	https://magizer.imageshack.com/in...
8	21988544164	2019-01-06 00:00:00.000	70.00	11	Sold	13	1	Word	11	Office 365	1	Royal Blue	2	https://magizer.imageshack.com/img922/9264/ITdYvM...	https://magizer.imageshack.com/in...
9	23592963960	2019-01-06 00:00:00.000	50.00	2	Sold	6	1	Excel	2	Office 365	1	Jade	4	https://magizer.imageshack.com/img922/8595/yALd07...	https://magizer.imageshack.com/in...
10	25417292611	2019-01-06 00:00:00.000	45.00	9	Sold	1	1	Skype	9	Office 365	1	Cyan	1	https://magizer.imageshack.com/img924/8061/q2FhJ...	https://magizer.imageshack.com/in...
11	25612151238	2019-01-06 00:00:00.000	50.00	17	Sold	2	1	Kaizala	17	Office 365	1	Cyan	1	https://magizer.imageshack.com/img921/9127/XOOxK...	https://magizer.imageshack.com/in...
12	26716708547	2019-01-06 00:00:00.000	50.00	2	Sold	5	1	Excel	2	Office 365	1	Jade	4	https://magizer.imageshack.com/img922/8595/yALd07...	https://magizer.imageshack.com/in...
13	29709581290	2019-01-06 00:00:00.000	50.00	3	Sold	6	1	Exchange	3	Office 365	1	Cyan	1	https://magizer.imageshack.com/img921/8353/UTn7R...	https://magizer.imageshack.com/in...
14	29749551115	2019-01-06 00:00:00.000	20.00	19	Sold	2	1	Forms	19	Office 365	1	Turquoise	3	https://magizer.imageshack.com/img921/3233/aUKT4r...	https://magizer.imageshack.com/in...
15	30330939476	2019-01-13 00:00:00.000	48.00	5	Sold	13	1	Outlook	5	Office 365	1	Cyan	1	https://magizer.imageshack.com/img924/7428/4HkA...	https://magizer.imageshack.com/in...
16	30363253334	2019-01-13 00:00:00.000	50.00	17	Sold	5	1	Kaizala	17	Office 365	1	Cyan	1	https://magizer.imageshack.com/img921/9127/XOOxK...	https://magizer.imageshack.com/in...
17	31883524451	2019-01-13 00:00:00.000	98.00	4	Sold	2	1	OneNote	4	Office 365	1	Magenta	8	https://magizer.imageshack.com/img922/6473/bYxqk...	https://magizer.imageshack.com/in...
18	34307543930	2019-01-13 00:00:00.000	20.00	19	Sold	2	1	Forms	19	Office 365	1	Turquoise	3	https://magizer.imageshack.com/img921/3233/aUKT4r...	https://magizer.imageshack.com/in...
19	34786665855	2019-01-13 00:00:00.000	28.00	21	Sold	11	1	Teams	21	Office 365	1	Purple	9	https://magizer.imageshack.com/img923/2618/Osa/Y1...	https://magizer.imageshack.com/in...
20	34859206767	2019-01-13 00:00:00.000	60.00	8	Sold	13	1	SharePoint	8	Office 365	1	Turquoise	3	https://magizer.imageshack.com/img923/8037/3vnZQ...	https://magizer.imageshack.com/in...