Tech Product Sales Analysis of 2019

"SQL Queries "

```sql
-- 1. Cleaning, Deleting, and Adding some columns: -
```

```sql
-- Display all data of the products table:
SELECT * FROM Products;
```

	column1	Order_ID	Product	Quantity_Ordered	Price_Each	Order_Date	Purchase_Address	Month	Sales	City	Hour
1	0	295665	Macbook Pro Laptop	1	1700	2019-12-30 00:01:00.000	136 Church St, New York City, NY 10001	12	1700	New York City	0
2	1	295666	LG Washing Machine	1	600	2019-12-29 07:03:00.000	562 2nd St, New York City, NY 10001	12	600	New York City	7
3	2	295667	USB-C Charging Cable	1	11.9499998092651	2019-12-12 18:21:00.000	277 Main St, New York City, NY 10001	12	11.9499998092651	New York City	18
4	3	295668	27in FHD Monitor	1	149.990005493164	2019-12-22 15:13:00.000	410 6th St, San Francisco, CA 94016	12	149.990005493164	San Francisco	15
5	4	295669	USB-C Charging Cable	1	11.9499998092651	2019-12-18 12:38:00.000	43 Hill St, Atlanta, GA 30301	12	11.9499998092651	Atlanta	12
6	5	295670	AA Batteries (4-pack)	1	3.83999991416931	2019-12-31 22:58:00.000	200 Jefferson St, New York City, NY 10001	12	3.83999991416931	New York City	22
7	6	295671	USB-C Charging Cable	1	11.9499998092651	2019-12-16 15:10:00.000	928 12th St, Portland, OR 97035	12	11.9499998092651	Portland	15
8	7	295672	USB-C Charging Cable	2	11.9499998092651	2019-12-13 09:29:00.000	813 Hickory St, Dallas, TX 75001	12	23.8999996185303	Dallas	9
9	8	295673	Bose SoundSport Headphones	1	99.9899978637695	2019-12-15 23:26:00.000	718 Wilson St, Dallas, TX 75001	12	99.9899978637695	Dallas	23
10	9	295674	AAA Batteries (4-pack)	4	2.99000000953674	2019-12-28 11:51:00.000	77 7th St, Dallas, TX 75001	12	11.960000038147	Dallas	11
11	10	295675	USB-C Charging Cable	2	11.9499998092651	2019-12-13 13:52:00.000	594 1st St, San Francisco, CA 94016	12	23.8999996185303	San Francisco	13
12	11	295676	ThinkPad Laptop	1	999.989990234375	2019-12-28 17:19:00.000	410 Lincoln St, Los Angeles, CA 90001	12	999.989990234375	Los Angeles	17
13	12	295677	AA Batteries (4-pack)	2	3.83999991416931	2019-12-20 19:19:00.000	866 Pine St, Boston, MA 02215	12	7.67999982833862	Boston	19
14	13	295678	AAA Batteries (4-pack)	2	2.99000000953674	2019-12-06 09:38:00.000	187 Lincoln St, Dallas, TX 75001	12	5.98000001907349	Dallas	9
15	14	295679	USB-C Charging Cable	1	11.9499998092651	2019-12-25 09:39:00.000	902 2nd St, Dallas, TX 75001	12	11.9499998092651	Dallas	9

```sql
-- Drop 'column1' from the table:
ALTER TABLE
    Products
DROP COLUMN
    column1;
```

```sql
-- Display the table after dropping 'column1' from it:
SELECT * FROM Products
```

	Order_ID	Product	Quantity_Ordered	Price_Each	Order_Date	Purchase_Address	Month	Sales	City	Hour
1	295665	Macbook Pro Laptop	1	1700	2019-12-30 00:01:00.000	136 Church St, New York City, NY 10001	12	1700	New York City	0
2	295666	LG Washing Machine	1	600	2019-12-29 07:03:00.000	562 2nd St, New York City, NY 10001	12	600	New York City	7
3	295667	USB-C Charging Cable	1	11.9499998092651	2019-12-12 18:21:00.000	277 Main St, New York City, NY 10001	12	11.9499998092651	New York City	18
4	295668	27in FHD Monitor	1	149.990005493164	2019-12-22 15:13:00.000	410 6th St, San Francisco, CA 94016	12	149.990005493164	San Francisco	15
5	295669	USB-C Charging Cable	1	11.9499998092651	2019-12-18 12:38:00.000	43 Hill St, Atlanta, GA 30301	12	11.9499998092651	Atlanta	12
6	295670	AA Batteries (4-pack)	1	3.83999991416931	2019-12-31 22:58:00.000	200 Jefferson St, New York City, NY 10001	12	3.83999991416931	New York City	22
7	295671	USB-C Charging Cable	1	11.9499998092651	2019-12-16 15:10:00.000	928 12th St, Portland, OR 97035	12	11.9499998092651	Portland	15
8	295672	USB-C Charging Cable	2	11.9499998092651	2019-12-13 09:29:00.000	813 Hickory St, Dallas, TX 75001	12	23.8999996185303	Dallas	9
9	295673	Bose SoundSport Headphones	1	99.9899978637695	2019-12-15 23:26:00.000	718 Wilson St, Dallas, TX 75001	12	99.9899978637695	Dallas	23
10	295674	AAA Batteries (4-pack)	4	2.99000000953674	2019-12-28 11:51:00.000	77 7th St, Dallas, TX 75001	12	11.960000038147	Dallas	11
11	295675	USB-C Charging Cable	2	11.9499998092651	2019-12-13 13:52:00.000	594 1st St, San Francisco, CA 94016	12	23.8999996185303	San Francisco	13
12	295676	ThinkPad Laptop	1	999.989990234375	2019-12-28 17:19:00.000	410 Lincoln St, Los Angeles, CA 90001	12	999.989990234375	Los Angeles	17
13	295677	AA Batteries (4-pack)	2	3.83999991416931	2019-12-20 19:19:00.000	866 Pine St, Boston, MA 02215	12	7.67999982833862	Boston	19
14	295678	AAA Batteries (4-pack)	2	2.99000000953674	2019-12-06 09:38:00.000	187 Lincoln St, Dallas, TX 75001	12	5.98000001907349	Dallas	9
15	295679	USB-C Charging Cable	1	11.9499998092651	2019-12-25 09:39:00.000	902 2nd St, Dallas, TX 75001	12	11.9499998092651	Dallas	9

```sql
-- Create new columns named Day_Name and Month_Name in the Products
Table:
ALTER TABLE
    Products
ADD
    Day_Name VARCHAR(5),
    Month_Name VARCHAR(15);


-- Insert the extracted day and month names in Day_Name and
Month_Name columns:
UPDATE
    Products
SET
    Day_Name = FORMAT(Order_Date, 'ddd'),
    Month_Name = DATENAME(mm, Order_Date);


-- Update the Month_Name column by replacing the full name of the
month with the first three characters:
UPDATE
    Products
SET
    Month_Name = SUBSTRING(Month_Name, 1, 3);



-- Display the table after adding two columns:
SELECT * FROM Products;
```

Results | Messages

	Order_ID	Product	Quantity_Ordered	Price_Each	Order_Date	Purchase_Address	Month	Sales	City	Hour	Day_Name	Month_Name
1	295665	Macbook Pro Laptop	1	1700	2019-12-30 00:01:00.000	136 Church St, New York City, NY 10001	12	1700	New York City	0	Mon	Dec
2	295666	LG Washing Machine	1	600	2019-12-29 07:03:00.000	562 2nd St, New York City, NY 10001	12	600	New York City	7	Sun	Dec
3	295667	USB-C Charging Cable	1	11.9499998092651	2019-12-12 18:21:00.000	277 Main St, New York City, NY 10001	12	11.9499998092651	New York City	18	Thu	Dec
4	295668	27in FHD Monitor	1	149.990005493164	2019-12-22 15:13:00.000	410 6th St, San Francisco, CA 94016	12	149.990005493164	San Francisco	15	Sun	Dec
5	295669	USB-C Charging Cable	1	11.9499998092651	2019-12-18 12:38:00.000	43 Hill St, Atlanta, GA 30301	12	11.9499998092651	Atlanta	12	Wed	Dec
6	295670	AA Batteries (4-pack)	1	3.83999991416931	2019-12-31 22:58:00.000	200 Jefferson St, New York City, NY 10001	12	3.83999991416931	New York City	22	Tue	Dec
7	295671	USB-C Charging Cable	1	11.9499998092651	2019-12-16 15:10:00.000	928 12th St, Portland, OR 97035	12	11.9499998092651	Portland	15	Mon	Dec
8	295672	USB-C Charging Cable	2	11.9499998092651	2019-12-13 09:29:00.000	813 Hickory St, Dallas, TX 75001	12	23.8999996185303	Dallas	9	Fri	Dec
9	295673	Bose SoundSport Headphones	1	99.9899978637695	2019-12-15 23:26:00.000	718 Wilson St, Dallas, TX 75001	12	99.9899978637695	Dallas	23	Sun	Dec
10	295674	AAA Batteries (4-pack)	4	2.99000000953674	2019-12-28 11:51:00.000	77 7th St, Dallas, TX 75001	12	11.960000038147	Dallas	11	Sat	Dec
11	295675	USB-C Charging Cable	2	11.9499998092651	2019-12-13 13:52:00.000	594 1st St, San Francisco, CA 94016	12	23.8999996185303	San Francisco	13	Fri	Dec
12	295676	ThinkPad Laptop	1	999.989990234375	2019-12-28 17:19:00.000	410 Lincoln St, Los Angeles, CA 90001	12	999.989990234375	Los Angeles	17	Sat	Dec
13	295677	AA Batteries (4-pack)	2	3.83999991416931	2019-12-20 19:19:00.000	866 Pine St, Boston, MA 02215	12	7.67999982833862	Boston	19	Fri	Dec
14	295678	AAA Batteries (4-pack)	2	2.99000000953674	2019-12-06 09:38:00.000	187 Lincoln St, Dallas, TX 75001	12	5.98000001907349	Dallas	9	Fri	Dec
15	295679	USB-C Charging Cable	1	11.9499998092651	2019-12-25 09:39:00.000	902 2nd St, Dallas, TX 75001	12	11.9499998092651	Dallas	9	Wed	Dec
16	295680	Lightning Charging Cable	1	14.9499998092651	2019-12-01 14:30:00.000	338 Main St, Austin, TX 73301	12	14.9499998092651	Austin	14	Sun	Dec

```sql
-- 2. Some of the KPIs: -


-- 2.1. What are the total orders?
SELECT
    COUNT(DISTINCT Order_ID) AS Total_Orders
FROM
    Products;
```

	Total_Orders
1	178437

```sql
-- 2.2. What are the total sales?
SELECT
    ROUND(SUM(Sales), 2) AS Total_Sales
FROM
    Products;
```

	Total_Sales
1	34492035.8

```sql
-- 2.3. What is the average price of the order?
SELECT
    ROUND(SUM(Sales) / COUNT(DISTINCT Order_ID), 2) AS Avg_Order_Price
FROM
    Products;
```

	Avg_Order_Price
1	193.3

```sql
-- 2.4. What are the total products sold?
SELECT
    SUM(Quantity_Ordered) AS Total_Products_Sold
FROM
    Products;
```

Results | Messages

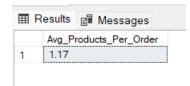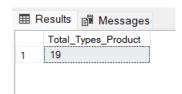| Total_Products_Sold |
| --- |
| 1 | 209079 |

```sql
-- 2.5. What is the average of products sold per order?
SELECT
    ROUND(CAST(SUM(Quantity_Ordered) AS float) / CAST(COUNT(DISTINCT
Order_ID) AS float), 2) AS Avg_Products_Sold_Per_Order
FROM
    Products;
```

Results | Messages

Avg_Products_Per_Order
1	1.17

```sql
-- 2.6. How many types of products?
SELECT
    COUNT(DISTINCT Product) AS Total_Types_Product
FROM
    Products;
```

Results | Messages

Total_Types_Product
1	19

```sql
-- 3.1. What are total orders by daily trend?
SELECT
    Day_Name,
    COUNT(DISTINCT Order_ID) AS Total_Orders
FROM
    Products
GROUP BY
    Day_Name
ORDER BY
    Total_Orders DESC;
```
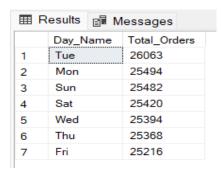
	Day_Name	Total_Orders
1	Tue	26063
2	Mon	25494
3	Sun	25482
4	Sat	25420
5	Wed	25394
6	Thu	25368
7	Fri	25216

```sql
-- 3.2. What are total orders by monthly trend?
SELECT
    Month_Name,
    COUNT(DISTINCT Order_ID) AS Total_Orders
FROM
    Products
GROUP BY
    Month_Name
ORDER BY
    Total_Orders DESC;
```

	Month_Name	Total_Orders
1	December	24004
2	October	19436
3	April	17528
4	November	16859
5	May	15836
6	March	14549
7	July	13761
8	June	12989
9	February	11496
10	August	11484
11	September	11202
12	January	9293

```sql
-- 3.3. What are the total and ratio of orders in each hour?
SELECT
    Hour,
    COUNT(DISTINCT Order_ID) AS Total_Orders,
    ROUND(CAST(COUNT(DISTINCT Order_ID) * 100 AS FLOAT) / (SELECT
COUNT(DISTINCT Order_ID) FROM Products), 2) AS PCT_Orders
FROM
    Products
GROUP BY
    Hour
ORDER BY
    Total_Orders DESC;
```

	Hour	Total_Orders	PCT_Orders
1	19	12377	6.94
2	12	12082	6.77
3	11	11882	6.66
4	20	11763	6.59
5	18	11761	6.59
6	13	11682	6.55
7	14	10522	5.9
8	21	10499	5.88
9	10	10492	5.88
10	17	10476	5.87
11	16	9960	5.58
12	15	9761	5.47
13	22	8453	4.74
14	9	8404	4.71
15	8	6036	3.38
16	23	5990	3.36
17	7	3836	2.15
18	0	3758	2.11
19	6	2375	1.33
20	1	2255	1.26
21	5	1259	0.71
22	2	1196	0.67
23	4	814	0.46
24	3	804	0.45

```sql
-- 3.4. What are the total and ratio of orders per city?
SELECT
    City,
    COUNT(DISTINCT Order_ID) AS Total_Orders,
    ROUND(CAST(COUNT(DISTINCT Order_ID) * 100 AS FLOAT) / (SELECT
COUNT(DISTINCT Order_ID) FROM Products), 2) AS PCT_Orders
FROM
    Products
GROUP BY
    City
ORDER BY
    Total_Orders DESC;
```

Results

	City	Total_Orders	PCT_Orders
1	San Francisco	42898	24.04
2	Los Angeles	28498	15.97
3	New York City	23848	13.36
4	Boston	19092	10.7
5	Atlanta	14253	7.99
6	Dallas	14240	7.98
7	Seattle	14119	7.91
8	Portland	11980	6.71
9	Austin	9509	5.33

```sql
-- 3.5. What are the total and ratio of products sold per product?
SELECT
    Product,
    SUM(Quantity_Ordered) AS Total_Quantity_Sold,
    ROUND(CAST(SUM(Quantity_Ordered) * 100 AS FLOAT) / (SELECT
SUM(Quantity_Ordered) FROM Products), 2) AS PCT_Quantity_Sold
FROM
    Products
GROUP BY
    Product
ORDER BY
    Total_Quantity_Sold DESC;
```

	Product	Total_Products_Sold	PCT_Products_Sold
1	AAA Batteries (4-pack)	31017	14.84
2	AA Batteries (4-pack)	27635	13.22
3	USB-C Charging Cable	23975	11.47
4	Lightning Charging Cable	23217	11.1
5	Wired Headphones	20557	9.83
6	Apple Airpods Headphones	15661	7.49
7	Bose SoundSport Headphones	13457	6.44
8	27in FHD Monitor	7550	3.61
9	iPhone	6849	3.28
10	27in 4K Gaming Monitor	6244	2.99
11	34in Ultrawide Monitor	6199	2.96
12	Google Phone	5532	2.65
13	Flatscreen TV	4819	2.3
14	Macbook Pro Laptop	4728	2.26
15	ThinkPad Laptop	4130	1.98
16	20in Monitor	4129	1.97
17	Vareebadd Phone	2068	0.99
18	LG Washing Machine	666	0.32
19	LG Dryer	646	0.31

```sql
-- 3.6. What is the price of each product?
SELECT
    DISTINCT Product,
    ROUND(Price_Each, 2) AS Price
FROM
    Products
ORDER BY
    Price DESC;
```

	Product	Price
1	Macbook Pro Laptop	1700
2	ThinkPad Laptop	999.99
3	iPhone	700
4	LG Dryer	600
5	Google Phone	600
6	LG Washing Machine	600
7	Vareebadd Phone	400
8	27in 4K Gaming Monitor	389.99
9	34in Ultrawide Monitor	379.99
10	Flatscreen TV	300
11	Apple Airpods Headphones	150
12	27in FHD Monitor	149.99
13	20in Monitor	109.99
14	Bose SoundSport Headphones	99.99
15	Lightning Charging Cable	14.95
16	Wired Headphones	11.99
17	USB-C Charging Cable	11.95
18	AA Batteries (4-pack)	3.84
19	AAA Batteries (4-pack)	2.99

```sql
-- 3.7. What are the total and ratio of sales per product?
SELECT
    Product,
    ROUND(SUM(Sales), 2) AS Total_Sales,
    ROUND(SUM(Sales) * 100  / (SELECT SUM(Sales) FROM Products), 2) AS
PCT_Sales
FROM
    Products
GROUP BY
    Product
ORDER BY
    Total_Sales DESC;
```

⊞ Results ⊞ Messages

	Product	Total_Sales	PCT_Sales
1	Macbook Pro Laptop	8037600	23.3
2	iPhone	4794300	13.9
3	ThinkPad Laptop	4129958.66	11.97
4	Google Phone	3319200	9.62
5	27in 4K Gaming Monitor	2435097.5	7.06
6	34in Ultrawide Monitor	2355557.95	6.83
7	Apple Airpods Headphones	2349150	6.81
8	Flatscreen TV	1445700	4.19
9	Bose SoundSport Headphones	1345565.4	3.9
10	27in FHD Monitor	1132424.54	3.28
11	Vareebadd Phone	827200	2.4
12	20in Monitor	454148.7	1.32
13	LG Washing Machine	399600	1.16
14	LG Dryer	387600	1.12
15	Lightning Charging Cable	347094.15	1.01
16	USB-C Charging Cable	286501.25	0.83
17	Wired Headphones	246478.43	0.71
18	AA Batteries (4-pack)	106118.4	0.31
19	AAA Batteries (4-pack)	92740.83	0.27

```sql
-- 3.8. What are total sales by daily trend?
SELECT
    Day_Name,
    ROUND(SUM(Sales), 2) AS Total_Sales
FROM
    Products
GROUP BY
    Day_Name
ORDER BY
    Total_Sales DESC;
```
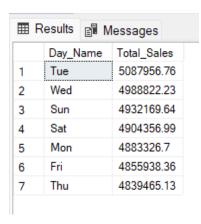
	Day_Name	Total_Sales
1	Tue	5087956.76
2	Wed	4988822.23
3	Sun	4932169.64
4	Sat	4904356.99
5	Mon	4883326.7
6	Fri	4855938.36
7	Thu	4839465.13

```sql
-- 3.9. What are total sales by monthly trend?
SELECT
    Month_Name,
    ROUND(SUM(Sales), 2) AS Total_Sales
FROM
    Products
GROUP BY
    Month_Name
ORDER BY
    Total_Sales DESC;
```

	Month_Name	Total_Sales
1	December	4613443.32
2	October	3736726.86
3	April	3390670.22
4	November	3199603.18
5	May	3152606.74
6	March	2807100.37
7	July	2647775.75
8	June	2577802.25
9	August	2244467.87
10	February	2202022.41
11	September	2097560.12
12	January	1822256.72

```sql
-- 3.10. What are the total sales in each hour?
SELECT
    Hour,
    ROUND(SUM(Sales), 2) AS Total_Sales
FROM
    Products
GROUP BY
    Hour
ORDER BY
    Total_Sales DESC;
```

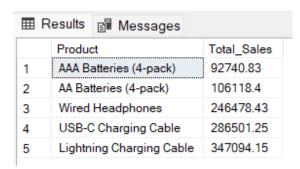|	Hour	Total_Sales
1	19	2412938.53
2	12	2316821.33
3	11	2300610.23
4	20	2281716.23
5	18	2219348.29
6	13	2155389.79
7	17	2129361.6
8	14	2083672.72
9	21	2042000.85
10	10	1944286.76
11	15	1941549.59
12	16	1904601.3
13	9	1639030.57
14	22	1607549.2
15	8	1192348.96
16	23	1179304.43
17	7	744854.12
18	0	713721.27
19	1	460866.88
20	6	448113
21	2	234851.44
22	5	230679.82
23	4	162661.01
24	3	145757.89

```sql
-- 3.11. What are the total and ratio of sales per city?
SELECT
    City,
    ROUND(SUM(Sales), 2) AS Total_Sales,
    ROUND(SUM(Sales) * 100 / (SELECT SUM(Sales) FROM Products), 2) AS
PCT_Sales
FROM
    Products
GROUP BY
    City
ORDER BY
    Total_Sales DESC;
```

	City	Total_Sales	PCT_Sales
1	San Francisco	8262203.87	23.95
2	Los Angeles	5452570.77	15.81
3	New York City	4664317.41	13.52
4	Boston	3661641.99	10.62
5	Atlanta	2795498.57	8.1
6	Dallas	2767975.39	8.02
7	Seattle	2747755.47	7.97
8	Portland	2320490.6	6.73
9	Austin	1819581.74	5.28

```sql
-- 3.11 What are the 5 best-selling products by sales?
SELECT TOP 5
    Product,
    ROUND(SUM(Sales), 2) AS Total_Sales
FROM
    Products
GROUP BY
    Product
ORDER BY
    Total_Sales DESC;
```

	Product	Total_Sales
1	Macbook Pro Laptop	8037600
2	iPhone	4794300
3	ThinkPad Laptop	4129958.66
4	Google Phone	3319200
5	27in 4K Gaming Monitor	2435097.5

```sql
-- 3.12 What are the 5 lowest-selling products by sales?
SELECT TOP 5
    Product,
    ROUND(SUM(Sales), 2) AS Total_Sales
FROM
    Products
GROUP BY
    Product
ORDER BY
    Total_Sales ASC;
```

	Product	Total_Sales
1	AAA Batteries (4-pack)	92740.83
2	AA Batteries (4-pack)	106118.4
3	Wired Headphones	246478.43
4	USB-C Charging Cable	286501.25
5	Lightning Charging Cable	347094.15

```sql
-- 3.13. What are the 5 best-selling products by quantity?
SELECT TOP 5
    Product,
    SUM(Quantity_Ordered) AS Total_Quantity
FROM
    Products
GROUP BY
    Product
ORDER BY
    Total_Quantity DESC;
```

	Product	Total_Quantity
1	AAA Batteries (4-pack)	31017
2	AA Batteries (4-pack)	27635
3	USB-C Charging Cable	23975
4	Lightning Charging Cable	23217
5	Wired Headphones	20557

```sql
-- 3.14. What are the 5 lowest-selling products by quantity?
SELECT TOP 5
    Product,
    SUM(Quantity_Ordered) AS Total_Quantity
FROM
    Products
GROUP BY
    Product
ORDER BY
    Total_Quantity ASC;
```

	Product	Total_Quantity
1	LG Dryer	646
2	LG Washing Machine	666
3	Vareebadd Phone	2068
4	20in Monitor	4129
5	ThinkPad Laptop	4130

```sql
-- 3.15. What are the 5 best-selling products by order?
SELECT TOP 5
    Product,
    COUNT(DISTINCT Order_ID) AS Total_Orders
FROM
    Products
GROUP BY
    Product
ORDER BY
    Total_Orders DESC;
```

	Product	Total_Orders
1	USB-C Charging Cable	21855
2	Lightning Charging Cable	21604
3	AAA Batteries (4-pack)	20593
4	AA Batteries (4-pack)	20542
5	Wired Headphones	18847

```sql
-- 3.16. What are the 5 lowest-selling products by order?
SELECT TOP 5
    Product,
    COUNT(DISTINCT Order_ID) AS Total_Orders
FROM
    Products
GROUP BY
    Product
ORDER BY
    Total_Orders ASC;
```

	Product	Total_Orders
1	LG Dryer	646
2	LG Washing Machine	666
3	Vareebadd Phone	2065
4	20in Monitor	4098
5	ThinkPad Laptop	4126