

CODING CHALLENGE 1

TRAINEE NAME: SWATHI BASKARAN


Creation of Database and Insertion of Data:

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SQLQuery1.sql - LA...AAUBI2\swathi (53)* - X
SELECT name from sys.databases;
CREATE DATABASE Practice2DB;
USE Practice2DB;

CREATE TABLE product_details(
    product_id VARCHAR(6) NOT NULL PRIMARY KEY
    ,price INTEGER NOT NULL
    ,product_name VARCHAR(32) NOT NULL
    ,category_id INTEGER NOT NULL
    ,segment_id INTEGER NOT NULL
    ,style_id INTEGER NOT NULL
    ,category_name VARCHAR(6) NOT NULL
    ,segment_name VARCHAR(6) NOT NULL
    ,style_name VARCHAR(19) NOT NULL
);
INSERT INTO product_details(product_id,price,product_name,category_id,segment_id,style_id,category_name,segment_name,style_name) VALUES ('c4a632',13,'Navy Oversized Jacket','Womens','Category');
INSERT INTO product_details(product_id,price,product_name,category_id,segment_id,style_id,category_name,segment_name,style_name) VALUES ('e83aa3',32,'Black Straight Jacket','Mens','Category');
INSERT INTO product_details(product_id,price,product_name,category_id,segment_id,style_id,category_name,segment_name,style_name) VALUES ('e31d39',10,'Cream Relaxed Jacket','Jeans','Segment');
INSERT INTO product_details(product_id,price,product_name,category_id,segment_id,style_id,category_name,segment_name,style_name) VALUES ('d5e9a6',23,'Khaki Suit Jacket','Jacket','Segment');
INSERT INTO product_details(product_id,price,product_name,category_id,segment_id,style_id,category_name,segment_name,style_name) VALUES ('72f5d4',19,'Indigo Rain Jacket','Shirt','Segment');
INSERT INTO product_details(product_id,price,product_name,category_id,segment_id,style_id,category_name,segment_name,style_name) VALUES ('9ec847',54,'Grey Fashion Jacket','Socks','Segment');
INSERT INTO product_details(product_id,price,product_name,category_id,segment_id,style_id,category_name,segment_name,style_name) VALUES ('5d267b',40,'White Tee Shirt','Navy Oversized','Style');
INSERT INTO product_details(product_id,price,product_name,category_id,segment_id,style_id,category_name,segment_name,style_name) VALUES ('c8d436',10,'Teal Button Up Shirt','Black Straight','Style');
INSERT INTO product_details(product_id,price,product_name,category_id,segment_id,style_id,category_name,segment_name,style_name) VALUES ('2a2353',57,'Blue Polo Shirt','Cream Relaxed','Style');
INSERT INTO product_details(product_id,price,product_name,category_id,segment_id,style_id,category_name,segment_name,style_name) VALUES ('f084eb',36,'Navy Solid Socks','Khaki Suit','Style');
INSERT INTO product_details(product_id,price,product_name,category_id,segment_id,style_id,category_name,segment_name,style_name) VALUES ('b9a74d',17,'White Striped Socks','Indigo Rain','Style');
INSERT INTO product_details(product_id,price,product_name,category_id,segment_id,style_id,category_name,segment_name,style_name) VALUES ('2feb6b',29,'Pink Fluro Polkadot','Grey Fashion','Style');

CREATE TABLE product_hierarchy(
    id INTEGER NOT NULL PRIMARY KEY
    ,parent_id INTEGER
    ,level_text VARCHAR(19) NOT NULL
    ,level_name VARCHAR(8) NOT NULL
);
INSERT INTO product_hierarchy(id,parent_id,level_text,level_name) VALUES (1,NULL,'Womens','Category');
INSERT INTO product_hierarchy(id,parent_id,level_text,level_name) VALUES (2,NULL,'Mens','Category');
INSERT INTO product_hierarchy(id,parent_id,level_text,level_name) VALUES (3,1,'Jeans','Segment');
INSERT INTO product_hierarchy(id,parent_id,level_text,level_name) VALUES (4,1,'Jacket','Segment');
INSERT INTO product_hierarchy(id,parent_id,level_text,level_name) VALUES (5,2,'Shirt','Segment');
INSERT INTO product_hierarchy(id,parent_id,level_text,level_name) VALUES (6,2,'Socks','Segment');
INSERT INTO product_hierarchy(id,parent_id,level_text,level_name) VALUES (7,3,'Navy Oversized','Style');
INSERT INTO product_hierarchy(id,parent_id,level_text,level_name) VALUES (8,3,'Black Straight','Style');
INSERT INTO product_hierarchy(id,parent_id,level_text,level_name) VALUES (9,3,'Cream Relaxed','Style');
INSERT INTO product_hierarchy(id,parent_id,level_text,level_name) VALUES (10,4,'Khaki Suit','Style');
INSERT INTO product_hierarchy(id,parent_id,level_text,level_name) VALUES (11,4,'Indigo Rain','Style');
INSERT INTO product_hierarchy(id,parent_id,level_text,level_name) VALUES (12,4,'Grey Fashion','Style');
INSERT INTO product_hierarchy(id,parent_id,level_text,level_name) VALUES (13,5,'White Tee','Style');
INSERT INTO product_hierarchy(id,parent_id,level_text,level_name) VALUES (14,5,'Teal Button Up','Style');
INSERT INTO product_hierarchy(id,parent_id,level_text,level_name) VALUES (15,5,'Blue Polo','Style');
INSERT INTO product_hierarchy(id,parent_id,level_text,level_name) VALUES (16,6,'Navy Solid','Style');
INSERT INTO product_hierarchy(id,parent_id,level_text,level_name) VALUES (17,6,'White Striped','Style');
INSERT INTO product_hierarchy(id,parent_id,level_text,level_name) VALUES (18,6,'Pink Fluro Polkadot','Style');

CREATE TABLE product_prices(
    id INTEGER NOT NULL PRIMARY KEY
    ,product_id VARCHAR(6) NOT NULL
    ,price INTEGER NOT NULL
);
INSERT INTO product_prices(id,product_id,price) VALUES (7,'c4a632',13);
INSERT INTO product_prices(id,product_id,price) VALUES (8,'e83aa3',32);
INSERT INTO product_prices(id,product_id,price) VALUES (9,'e31d39',10);
INSERT INTO product_prices(id,product_id,price) VALUES (10,'d5e9a6',23);
INSERT INTO product_prices(id,product_id,price) VALUES (11,'72f5d4',19);
INSERT INTO product_prices(id,product_id,price) VALUES (12,'9ec847',54);
INSERT INTO product_prices(id,product_id,price) VALUES (13,'5d267b',40);
INSERT INTO product_prices(id,product_id,price) VALUES (14,'c8d436',10);
INSERT INTO product_prices(id,product_id,price) VALUES (15,'2a2353',57);
INSERT INTO product_prices(id,product_id,price) VALUES (16,'f084eb',36);
INSERT INTO product_prices(id,product_id,price) VALUES (17,'b9a74d',17);
INSERT INTO product_prices(id,product_id,price) VALUES (18,'2feb6b',29);
```

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Query1.sql - LA_AAUBI2\swath (53)* 
CREATE TABLE sales(
    prod_id VARCHAR(6) NOT NULL
    ,qty INTEGER NOT NULL
    ,price INTEGER NOT NULL
    ,discount INTEGER NOT NULL
    ,member VARCHAR(5) NOT NULL
    ,txn_id VARCHAR(6) NOT NULL
    ,start_txn_time VARCHAR(24) NOT NULL
);

INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('c4a632',4,13.17,'true','54f307','2021-02-13T01:59:43.296Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('5d267b',4,44.17,'true','54f307','2021-02-13T01:59:43.296Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('b9a74d',4,10.17,'true','54f307','2021-02-13T01:59:43.296Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('2feb6b',2,29.17,'true','54f307','2021-02-13T01:59:43.296Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('c4a632',5,13.21,'true','26cc98','2021-01-19T01:39:00.346Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('e31d39',2,10.21,'true','26cc98','2021-01-19T01:39:00.346Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('72f5d4',3,19.21,'true','26cc98','2021-01-19T01:39:00.346Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('2a2353',3,57.21,'true','26cc98','2021-01-19T01:39:00.346Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('f084eb',4,36.21,'true','26cc98','2021-01-19T01:39:00.346Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('c4a632',1,13.21,'false','ef648d','2021-01-27T02:18:17.165Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('e83aa3',5,32.21,'false','ef648d','2021-01-27T02:18:17.165Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('d5e9a6',1,23.21,'false','ef648d','2021-01-27T02:18:17.165Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('72f5d4',1,19.21,'false','ef648d','2021-01-27T02:18:17.165Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('5d267b',3,40.21,'false','ef648d','2021-01-27T02:18:17.165Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('f084eb',4,36.21,'false','ef648d','2021-01-27T02:18:17.165Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('b9a74d',4,17.21,'false','ef648d','2021-01-27T02:18:17.165Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('c4a632',4,13.23,'true','fba96f','2021-03-03T00:32:56.054Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('e31d39',5,10.23,'true','fba96f','2021-03-03T00:32:56.054Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('9ec847',3,54.23,'true','fba96f','2021-03-03T00:32:56.054Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('f084eb',4,36.23,'true','fba96f','2021-03-03T00:32:56.054Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('2feb6b',2,29.23,'true','fba96f','2021-03-03T00:32:56.054Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('c4a632',5,13.11,'true','4e9268','2021-01-23T14:18:54.058Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('e31d39',4,10.11,'true','4e9268','2021-01-23T14:18:54.058Z');
```

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INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('e31d39','5,10,16','true','9e0037','2021-01-091717:25:31.238Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('d5e9a6','1,23,16','true','9e0037','2021-01-091717:25:31.238Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('72f5d4','1,19,16','true','9e0037','2021-01-091717:25:31.238Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('f084eb','3,36,16','true','9e0037','2021-01-091717:25:31.238Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('d5e9a6','5,23,7','true','d1a249','2021-02-07721:22:19.718Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('72f5d4','4,19,7','true','d1a249','2021-02-07721:22:19.718Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('9ec847','5,54,7','true','d1a249','2021-02-07721:22:19.718Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('2a2353','3,57,7','true','d1a249','2021-02-07721:22:19.718Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('2fe6bb','3,29,7','true','d1a249','2021-02-07721:22:19.718Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('c4a632','2,13,22','true','f77cc2','2021-02-08112:29:27.917Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('e83aa3','5,32,22','true','f77cc2','2021-02-08112:29:27.917Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('d5e9a6','3,23,22','true','f77cc2','2021-02-08112:29:27.917Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('9ec847','3,54,22','true','f77cc2','2021-02-08112:29:27.917Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('5d67b','3,40,22','true','f77cc2','2021-02-08112:29:27.917Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('c8d436','5,10,22','true','f77cc2','2021-02-08112:29:27.917Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('2a2353','5,57,22','true','f77cc2','2021-02-08112:29:27.917Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('c4a632','2,13,9','true','1928b1','2021-03-25708:47:13.286Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('e31d39','1,10,9','true','1928b1','2021-03-25708:47:13.286Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('d5e9a6','1,23,9','true','1928b1','2021-03-25708:47:13.286Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('9ec847','1,54,9','true','1928b1','2021-03-25708:47:13.286Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('5d67b','3,40,9','true','1928b1','2021-03-25708:47:13.286Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('2a2353','4,57,9','true','1928b1','2021-03-25708:47:13.286Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('b9a74d','1,17,9','true','1928b1','2021-03-25708:47:13.286Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('2fe6bb','5,29,9','true','1928b1','2021-03-25708:47:13.286Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('e83aa3','3,32,9','true','c28a63','2021-02-03700:35:29.933Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('d5e9a6','3,23,5','true','c28a63','2021-02-03700:35:29.933Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('72f5d4','3,19,5','true','c28a63','2021-02-03700:35:29.933Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('2a2353','4,57,5','true','c28a63','2021-02-03700:35:29.933Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('e31d39','2,10,23','true','870d3b','2021-01-20114:29:24.691Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('9ec847','1,54,23','true','870d3b','2021-01-20114:29:24.691Z');
INSERT INTO sales(prod_id,qty,price,discount,member,txn_id,start_txn_time) VALUES ('c8d436','4,10,23','true','870d3b','2021-01-20114:29:24.691Z');

```

1. What was the total quantity sold for all products?

```
-- What was the total quantity sold for all products?  
SELECT s.prod_id, pd.product_name, SUM(s.qty) AS 'Total Quantity'  
FROM sales s  
RIGHT JOIN product_details pd  
ON s.prod_id = pd.product_id  
GROUP BY s.prod_id, pd.product_name;
```

100 %

	prod_id	product_name	Total Quantity
1	e83aa3	Black Straight Jeans - Womens	40
2	2a2353	Blue Polo Shirt - Mens	51
3	e31d39	Cream Relaxed Jeans - Wom...	54
4	9ec847	Grey Fashion Jacket - Womens	49
5	72f5d4	Indigo Rain Jacket - Womens	36
6	d5e9a6	Khaki Suit Jacket - Womens	49
7	c4a632	Navy Oversized Jeans - Wom...	52
8	f084eb	Navy Solid Socks - Mens	42
9	2feb6b	Pink Fluro Polkadot Socks - ...	37
10	c8d436	Teal Button Up Shirt - Mens	26
11	b9a74d	White Striped Socks - Mens	48
12	5d267b	White Tee Shirt - Mens	50

2. What is the total generated revenue for all products before discounts?

```
-- What is the total generated revenue for all products before discounts?  
SELECT s.prod_id, SUM(s.qty * pp.price) AS 'Revenue Generated'  
FROM sales s  
RIGHT JOIN product_prices pp  
ON s.prod_id = pp.product_id  
GROUP BY s.prod_id;
```

100 %

	prod_id	Revenue Generated
1	2a2353	2907
2	2feb6b	1073
3	5d267b	2000
4	72f5d4	684
5	9ec847	2646
6	b9a74d	816
7	c4a632	676
8	c8d436	260
9	d5e9a6	1127
10	e31d39	540
11	e83aa3	1280
12	f084eb	1512

3. How many unique transactions were there?

```
-- How many unique transactions were there?
SELECT COUNT(DISTINCT txn_id) AS 'Number of Unique transactions' FROM sales;
```

Number of Unique transactions	
1	31

4. What are the average unique products purchased in each transaction?

```
-- What are the average unique products purchased in each transaction?
SELECT AVG(prod_count) AS avg_distinct_prod_count
FROM (
    SELECT COUNT(DISTINCT prod_id) AS prod_count
    FROM sales
    GROUP BY txn_id
) AS per_txn_counts;
```

avg_distinct_prod_count	
1	5

5. What are the top 3 products by total revenue before discount?

```
-- What are the top 3 products by total revenue before discount?
WITH ProductRevenue AS
(SELECT prod_id, SUM(qty*price) AS prod_rev
FROM sales
GROUP BY prod_id),
ProductRanking AS
(
    SELECT prod_id, prod_rev,
    RANK() OVER( ORDER BY prod_rev DESC) AS revenue_rank
FROM ProductRevenue
)
SELECT pr.prod_id, pd.product_name, pr.prod_rev, pr.revenue_rank
FROM ProductRanking pr
JOIN product_details pd
ON pd.product_id = pr.prod_id
WHERE pr.revenue_rank <= 3
ORDER BY pr.revenue_rank ASC;
```

	prod_id	product_name	prod_rev	revenue_rank
1	2a2353	Blue Polo Shirt - Mens	2907	1
2	9ec847	Grey Fashion Jacket - Womens	2646	2
3	5d267b	White Tee Shirt - Mens	2000	3