Practical 4

Aim: Create a new table named ‘products’ and perform the following SQL queries related to CREATE, INSERT INTO,MIN(), MAX(), COUNT(), SUM(), AVG(), IN operations..

1. **Create a new table products**
2. **INSERT the values into the table**

CREATE TABLE product(prod_id_int, product varchar(200),price float, quantity int, cust varchar(200));

INSERT INTO product

VALUES (001,'Laptop',40000,2,'alex'),(002,'Smartphone', 10000,1,'Beta'),(003,'SmartWatch',1000,4,'Charlie');

	prod_id integer	product character varying (200)	price double precision	quantity integer	cust character varying (200)
1	1	Laptop	40000	2	alex
2	2	Smartphone	10000	1	Beta
3	3	SmartWatch	1000	4	Charlie

3. **Display the lowest price among all the products.**
   SELECT MIN(price) AS lowest_price FROM product;

	lowest_price double precision
1	1000

4. Display the maximum price among all the products.
   SELECT MAX(price) AS maximum_price FROM product;

	maximum_price double precision
1	40000

5. Display the total number of products.
   SELECT COUNT(*) AS total_products FROM product;

	total_products bigint
1	3

6. Display the total quantity of products.
   SELECT SUM(quantity) AS total_quantity FROM product;

	total_quantity bigint
1	7

7. Display the total quantity of products with price less than 1 Lakh.
SELECT SUM(quantity) AS total_quantity_less_than_1_lakh FROM product
WHERE price < 100000;

	total_quantity_less_than_1_lakh bigint
1	7

8. Display the average price for all records of products table.
SELECT AVG(price) AS average_price FROM product;

	average_price double precision
1	17000

9. Display the average price for products having more than 1 quantity.
SELECT AVG(price) AS average_price FROM product WHERE quantity > 1;

	average_price double precision
1	20500

10. Select records with customer name is Mahesh or Suresh (using IN operator).
SELECT * FROM product WHERE cust IN ('Alex', 'Beta');

	prod_id integer	product character varying (200)	price double precision	quantity integer	cust character varying (200)
1	2	Smartphone	10000	1	Beta

11. Select records with price between 15000 and 50000.
SELECT * FROM product WHERE price BETWEEN 15000 AND 50000;

	prod_id integer	product character varying (200)	price double precision	quantity integer	cust character varying (200)
1	1	Laptop	40000	2	alex

Results: SQL queries related to CREATE, INSERT INTO,MIN(), MAX(), COUNT(), SUM(), AVG(), IN operations were done successfully.

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Marking Scheme:

Criteria	Total Marks	Marks Obtained	Comments
Concept (A)	2		
Implementation (B)	2		
Performance (C)	2		
Total	6 (To be scaled down to 1.5)		

Practical 5

Aim: Based on the table created in the previous experiment, named ‘products’, perform the following SQL queries related to AS, ORDER BY, UPDATE, DELETE, INSERT, OR, IN, ALTER operations.

1. Display the amount of each product in a new derived attribute named ‘amount’. (Amount = Quantity * Price).
   SELECT *, (quantity * price) AS amount FROM product;

	prod_id integer	product character varying (200)	price double precision	quantity integer	cust character varying (200)	amount double precision
1	1	Laptop	40000	2	alex	80000
2	2	Smartphone	10000	1	Beta	10000
3	3	SmartWatch	1000	4	Charlie	4000

2. Display the products in ascending order of the price.
   SELECT * FROM product ORDER BY price ASC;

	prod_id integer	product character varying (200)	price double precision	quantity integer	cust character varying (200)
1	3	SmartWatch	1000	4	Charlie
2	2	Smartphone	10000	1	Beta
3	1	Laptop	40000	2	alex

3. Display the products in descending order of the price.
   SELECT * FROM product ORDER BY price DESC;

	prod_id integer	product character varying (200)	price double precision	quantity integer	cust character varying (200)
1	1	Laptop	40000	2	alex
2	2	Smartphone	10000	1	Beta
3	3	SmartWatch	1000	4	Charlie

4. Update the name of the product with product id 4 to ‘AC’.
   UPDATE product SET product = 'AC' WHERE prod_id = 4;

5. Retrieve the details of products where the product_id is either '001' or '003'.
   SELECT * FROM product WHERE prod_id IN ('001', '003');

	prod_id integer	product character varying (200)	price double precision	quantity integer	cust character varying (200)
1	1	Laptop	40000	2	alex
2	3	SmartWatch	1000	4	Charlie

6. Insert a record into the table with the following values: Refrigerator 2 80000 - 005 (Customer name should automatically become NULL)
INSERT INTO product (prod_id_int, product, price, quantity, cust) VALUES (005, 'Refrigerator', 80000, 2, NULL);

	prod_id integer	product character varying (200)	price double precision	quantity integer	cust character varying (200)
1	1	Laptop	40000	2	alex
2	2	Smartphone	10000	1	Beta
3	3	SmartWatch	1000	4	Charlie
4	5	Refrigerator	80000	2	[null]

Results: SQL queries related to to AS, ORDER BY, UPDATE, DELETE, INSERT, OR, IN, ALTER operations were performed successfully

Marking Scheme:

Criteria	Total Marks	Marks Obtained	Comments
Concept (A)	2		
Implementation (B)	2		
Performance (C)	2		
Total	6 (To be scaled down to 1.5)		