**Name: Devasy Patel Roll Number: 20BCE057**

**Subject: DBMS**

**Practical: 5**

**Aim:** 1. Nested query

2. Co-related query

**1. Using the schema of Practical – 4, do as directed using single row subquery:**

**a) Find total order amount for each product**

**SQL >**

select orderno,sum(qtyordered\*productrate) as TotalAmount from order\_details GROUP BY orderno;

**Output :**

|  |  |
| --- | --- |
| **ORDERNO** | **TOTALAMOUNT** |
| O19002 | 5250 |
| O19008 | 2050 |
| O19001 | 29400 |
| O19003 | 3500 |
| O46865 | 850 |

**b) Which order has total order amount greater than 5000**

**SQL >**

select orderno,sum(qtyordered\*productrate) AS TotalAmount from order\_details GROUP BY orderno having sum(qtyordered\*productrate)>5000;

**Output :**

|  |  |
| --- | --- |
| **ORDERNO** | **TOTALAMOUNT** |
| O19002 | 5250 |

O19001 29400

**c) Which product is most expensive in terms of cost price?**

**SQL >**

select \* from product where costprice=(select max(costprice) from product);

**Output :**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PRODUCT NO** | **DESCRIPTI ON** | **PROFITPERC ENT** | **UNITMEAS URE** | **QTYONHA ND** | **REORDER LVL** | **SELLPRI CE** | **COSTPRI CE** |
| P03453 | Monitors | 6 | Piece | 10 | 3 | 12000 | 11200 |

**d) Find order having highest total order amount**

**SQL >**

select orderno,sum(qtyordered\*productrate) as TotalAmount from order\_details GROUP BY orderno having sum(qtyordered\*productrate) = (select max(TotalAmount) from (select orderno,sum(qtyordered\*productrate) as TotalAmount from order\_details GROUP BY orderno));

**Output :**

|  |  |
| --- | --- |
| **ORDERNO** | **TOTALAMOUNT** |
| O19001 | 29400 |

**e) Write a query to find the Product whose sell price is greater than the sell**

**price of product whose id is ‘P00001’.**

**SQL >**

select \* from product where sellprice > (select sellprice from product where productno='P00001');

**Output :**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PRODUCTNO** | **DESCRIPTION** | **PROFITPERCENT** | **UNITMEASURE** | **QTYONHAND** | **REORDERLVL** | **SELLPRICE** | **COSTPRICE** |
| P03453 | Monitors | 6 | Piece | 10 | 3 | 12000 | 11200 |
| P06734 | Mouse | 5 | Piece | 20 | 5 | 1050 | 500 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| P07868 | Keyboards | 2 | Piece | 10 | 3 | 3150 | 3050 |

**f) Write a query to find the products who all are having the highest sell price.**

**SQL >**

select \* from product where sellprice = (select max(sellprice) from product);

**Output :**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PRODUCTNO** | **DESCRIPTION** | **PROFITPERCENT** | **UNITMEASURE** | **QTYONHAND** | **REORDERLVL** | **SELLPRICE** | **COSTPRICE** |
| P03453 | Monitors | 6 | Piece | 10 | 3 | 12000 | 11200 |

**g) Write a query to find the order in which the least order amount of any product is greater than the highest order amount of any product in the order ‘O19002’.**

**SQL >**

select orderno,min(qtyordered\*productrate) as MinAmount from order\_details GROUP BY orderno having min(qtyordered\*productrate) > (select max(qtyordered\*productrate) from order\_details GROUP BY orderno having orderno='O19002');

**Output :** no rows selected

**SQL >**

select orderno,min(qtyordered\*productrate) as MinAmount from order\_details GROUP BY orderno having min(qtyordered\*productrate) > (select max(qtyordered\*productrate) from order\_details GROUP BY orderno having orderno='O19003');

**Output :**

|  |  |
| --- | --- |
| **ORDERNO** | **MINAMOUNT** |
| O19002 | 5250 |
| O19008 | 2050 |
| O19001 | 2100 |

**2. Do as directed, using multiple row subquery:**

a) **Write a query to find the product whose quantity is equal to the quantity of**

**at least one product ordered in the order ‘O19001’.**

**SQL >**

select productno,qtyonhand from product WHERE qtyonhand IN (select qtyonhand from product WHERE productno IN (select productno from order\_details WHERE orderno='O19001'));

**Output :**

|  |  |
| --- | --- |
| **PRODUCTNO** | **QTYONHAND** |
| P00001 | 100 |
| P03453 | 10 |
| P07865 | 100 |
| P07868 | 10 |

**b) Write a query to find the client whose Baldue is greater than at least one client associated with Salesman S01. (Use ANY)**

**SQL >**

select \* from client WHERE baldue > ANY(select baldue from client WHERE clientno = ANY(select clientno from sales\_order WHERE salesmanno='S01'));

**Output :**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CLIENTNO** | **NAME** | **CITY** | **PINCODE** | **STATE** | **BALDUE** |
| C01 | Ivan Bayross | Mumbai | 400054 | Maharashtra | 15000 |
| C03 | Chhaya Patel | Mumbai | 400057 | Maharashtra | 5000 |

**c) Write a query to find the Product having profit (sellprice-costprice) is**

**less than all products ordered in the order ‘O19001’. (Use ALL)**

**SQL >**

select productno,(sellprice-costprice) as Profit from product WHERE sellprice-costprice < ALL(select sellprice-costprice from product WHERE productno IN (select productno from order\_details WHERE orderno='O19001'));

**Output :** no rows selected

**SQL >**

select productno,(sellprice-costprice) as Profit from product WHERE sellprice-costprice > ALL(select sellprice-costprice from product WHERE productno IN (select productno from order\_details WHERE orderno='O19001'));

**Output :**

|  |  |
| --- | --- |
| **PRODUCTNO** | **PROFIT** |
| P03453 | 800 |
| P06734 | 550 |

**3. Do as directed, using correlated subquery:**

**a) Write a query to find the highest profit(sellprice-costprice) in each order. (Use inline view)**

**SQL >**

select orderno,max(qtyordered\*(productrate - (select costprice from product where product.productno = order\_details.productno))) as MaxProfit from order\_details GROUP BY orderno;

**Output :**

|  |  |
| --- | --- |
| **ORDERNO** | **MAXPROFIT** |
| O19002 | 250 |
| O19008 | 1050 |
| O19001 | 15800 |
| O19003 | -2000 |
| O46865 | -1750 |

**b) Write a query to list the salesman who have at least one order.**

**SQL >**

select \* from salesman where salesmanno IN (select salesmanno from sales\_order);

**Output :**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SALESMAN NO** | **SALESMAN NAME** | **ADDRESS**  **1** | **ADDRESS**  **2** | **CITY** | **PINCODE** | **STATE** | **SALAMT** | **TGTTOGET** | **YTDSALES** | **REMARKS** |
| S01 | Aman | A/14 | Worli | Mumbai | 400002 | Maharashtra | 3000 | 100 | 50 | Good |
| S04 | Ashish | A/5 | Juhu | Mumbai | 400044 | Maharashtra | 3500 | 200 | 150 | Good |

**c) Write a query to find the Salesman which do not have order at all.**

**SQL >**

select \* from salesman where salesmanno NOT IN (select salesmanno from sales\_order);

**Output :**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SALESMAN NO** | **SALESMAN NAME** | **ADDRESS**  **1** | **ADDRESS**  **2** | **CITY** | **PINCODE** | **STATE** | **SALAMT** | **TGTTOGET** | **YTDSALES** | **REMARKS** |
| S02 | Omkar | 65 | Nariman | Mumbai | 400001 | Maharashtra | 3000 | 200 | 100 | Good |
| S03 | Raj | P-7 | Bandra | Mumbai | 400032 | Maharashtra | 3000 | 200 | 100 | Good |

**d) Display third highest price of all product.**

**SQL >**

select \* from product where sellprice = (select max(sellprice) from product where sellprice<(select max(sellprice) from product where sellprice<(select max(sellprice) from product)));

**Output :**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PRODUCTNO** | **DESCRIPTION** | **PROFITPERCENT** | **UNITMEASURE** | **QTYONHAND** | **REORDERLVL** | **SELLPRICE** | **COSTPRICE** |
| P06734 | Mouse | 5 | Piece | 20 | 5 | 1050 | 500 |