**Problem Statement**

An E-commerce website manages its data in the form of various tables.

1. You are required to create tables for **supplier,customer,category,product,supplier\_pricing,order,rating** to store the data for the E-commerce with the schema definition given below.

**Table:supplier**

**Columns:**

|  |  |
| --- | --- |
| **SUPP\_ID** | INT PK |
| SUPP\_NAME | varchar(50) NOT NULL |
| SUPP\_CITY | varchar(50)  NOT NULL |
| SUPP\_PHONE | varchar(50) NOT NULL |

**Table:customer**

**Columns:**

|  |  |
| --- | --- |
| **CUS\_ID** | INT PK |
| CUS\_NAME | VARCHAR(20) NOT NULL |
| CUS\_PHONE | VARCHAR(10) NOT NULL |
| CUS\_CITY | VARCHAR(30) NOT NULL |
| CUS\_GENDER | CHAR |

**Table:category**

**Columns:**

|  |  |
| --- | --- |
| **CAT\_ID** | INT PK |
| CAT\_NAME | VARCHAR(20) NOT NULL |

**Table:product**

**Columns:**

|  |  |
| --- | --- |
| **PRO\_ID** | INT PK |
| PRO\_NAME | VARCHAR(20) NOT NULL DEFAULT "Dummy" |
| PRO\_DESC | VARCHAR(60) |
| **CAT\_ID** | INT FK |

**Table:supplier\_pricing**

**Columns:**

|  |  |
| --- | --- |
| **PRICING\_ID** | INT PK |
| **PRO\_ID** | INT FK |
| **SUPP\_ID** | INT FK |
| SUPP\_PRICE | INT DEFAULT 0 |

**Table:order**

**Columns:**

|  |  |
| --- | --- |
| ORD\_ID | INT PK |
| ORD\_AMOUNT | INT  NOT NULL |
| ORD\_DATE | DATE  NOT NULL |
| **CUS\_ID** | INT FK |
| **PRICING\_ID** | INT FK |

**Table:rating**

**Columns:** **(Rating provided in this table is common for product and supplier)**

|  |  |
| --- | --- |
| **RAT\_ID** | INT PK |
| **ORD\_ID** | INT FK |
| RAT\_RATSTARS | INT  NOT NULL |

1. Insert the following data in the table created above

Supplier Table-

**SUPP\_ID SUPP\_NAME SUPP\_CITY SUPP\_PHONE**

1 Rajesh Retails Delhi 1234567890

2 Appario Ltd. Mumbai 2589631470

3 Knome products Banglore 9785462315

4 Bansal Retails Kochi 8975463285

5 Mittal Ltd. Lucknow 7898456532

Customer Table-

**CUS\_ID CUS\_NAME CUS\_PHONE CUS\_CITY CUS\_GENDER**

1 AAKASH 9999999999 DELHI M

2 AMAN 9785463215 NOIDA M

3 NEHA 9999999999 MUMBAI F

4 MEGHA 9994562399 KOLKATA F

5 PULKIT 7895999999 LUCKNOW M

Category Table-

**CAT\_ID CAT\_NAME**

1 BOOKS

2 GAMES

3 GROCERIES

4 ELECTRONICS

5 CLOTHES

Product Table-

**PRO\_ID PRO\_NAME PRO\_DESC CAT\_ID**

1 GTA V Windows 7 and above with i5 processor and 8GB RAM 2

2 TSHIRT SIZE-L with Black, Blue and White variations 5

3 ROG LAPTOP Windows 10 with 15inch screen, i7 processor, 1TB SSD 4

4 OATS Highly Nutritious from Nestle 3

5 HARRY POTTER Best Collection of all time by J.K Rowling 1

6 MILK 1L Toned MIlk 3

7 Boat Earphones 1.5Meter long Dolby Atmos 4

8 Jeans Stretchable Denim Jeans with various sizes and color 5

9 Project IGI compatible with windows 7 and above 2

10 Hoodie Black GUCCI for 13 yrs and above 5

11 Rich Dad Poor Dad Written by RObert Kiyosaki 1

12 Train Your Brain By Shireen Stephen 1

Supplier\_pricing Table-

**PRICING\_ID PRO\_ID SUPP\_ID SUPP\_PRICE**

1 1 2 1500

2 3 5 30000

3 5 1 3000

4 2 3 2500

5 4 1 1000

Order Table-

**ORD\_ID ORD\_AMOUNT ORD\_DATE CUS\_ID PRICING\_ID**

101 1500 2021-10-06 2 1

102 1000 2021-10-12 3 5

103 30000 2021-09-16 5 2

104 1500 2021-10-05 1 1

105 3000 2021-08-16 4 3

106 1450 2021-08-18 1 9

107 789 2021-09-01 3 7

108 780 2021-09-07 5 6

109 3000 2021-00-10 5 3

110 2500 2021-09-10 2 4

111 1000 2021-09-15 4 5

112 789 2021-09-16 4 7

113 31000 2021-09-16 1 8

114 1000 2021-09-16 3 5

115 3000 2021-09-16 5 3

116 99 2021-09-17 2 14

Rating table-

**RAT\_ID ORD\_ID RAT\_RATSTARS**

1 101 4

2 102 3

3 103 1

4 104 2

5 105 4

6 106 3

7 107 4

8 108 4

9 109 3

10 110 5

11 111 3

12 112 4

13 113 2

14 114 1

15 115 1

16 116 0

**Queries →**

Write queries for the following:

1. Display the total number of customers based on gender who have placed orders of worth at least Rs.3000.
2. Display all the orders along with product name ordered by a customer having Customer\_Id=2
3. Display the Supplier details who can supply more than one product.
4. Find the least expensive product from each category and print the table with category id, name, product name and price of the product
5. Display the Id and Name of the Product ordered after “2021-10-05”.
6. Display customer name and gender whose names start or end with character 'A'.
7. Create a stored procedure to display supplier id, name, rating and Type\_of\_Service. For Type\_of\_Service, If rating =5, print “Excellent Service”,If rating >4 print “Good Service”, If rating >2 print “Average Service” else print “Poor Service”.

**Solutions →**

Create Database if not exists `order-directory` ;

use `order-directory`;

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Q1) create tables --

CREATE TABLE IF NOT EXISTS supplier(

SUPP\_ID int primary key,

SUPP\_NAME varchar(50) NOT NULL,

SUPP\_CITY varchar(50),

SUPP\_PHONE varchar(10) NOT NULL

);

CREATE TABLE IF NOT EXISTS customer(

CUS\_ID INT NOT NULL,

CUS\_NAME VARCHAR(20) NOT NULL,

CUS\_PHONE VARCHAR(10) NOT NULL,

CUS\_CITY varchar(30) NOT NULL,

CUS\_GENDER CHAR,

PRIMARY KEY (CUS\_ID));

CREATE TABLE IF NOT EXISTS category (

CAT\_ID INT NOT NULL,

CAT\_NAME VARCHAR(20) NOT NULL,

PRIMARY KEY (CAT\_ID)

);

CREATE TABLE IF NOT EXISTS product (

PRO\_ID INT NOT NULL,

PRO\_NAME VARCHAR(20) NOT NULL DEFAULT "Dummy",

PRO\_DESC VARCHAR(60),

CAT\_ID INT NOT NULL,

PRIMARY KEY (PRO\_ID),

FOREIGN KEY (CAT\_ID) REFERENCES CATEGORY (CAT\_ID)

);

CREATE TABLE IF NOT EXISTS supplier\_pricing (

PRICING\_ID INT NOT NULL,

PRO\_ID INT NOT NULL,

SUPP\_ID INT NOT NULL,

SUPP\_PRICE INT DEFAULT 0,

PRIMARY KEY (PRICING\_ID),

FOREIGN KEY (PRO\_ID) REFERENCES PRODUCT (PRO\_ID),

FOREIGN KEY (SUPP\_ID) REFERENCES SUPPLIER(SUPP\_ID)

);

CREATE TABLE IF NOT EXISTS `order` (

ORD\_ID INT NOT NULL,

ORD\_AMOUNT INT NOT NULL,

ORD\_DATE DATE,

CUS\_ID INT NOT NULL,

PRICING\_ID INT NOT NULL,

PRIMARY KEY (ORD\_ID),

FOREIGN KEY (CUS\_ID) REFERENCES CUSTOMER(CUS\_ID),

FOREIGN KEY (PRICING\_ID) REFERENCES SUPPLIER\_PRICING(PRICING\_ID)

);

CREATE TABLE IF NOT EXISTS rating (

RAT\_ID INT NOT NULL,

ORD\_ID INT NOT NULL,

RAT\_RATSTARS INT NOT NULL,

PRIMARY KEY (RAT\_ID),

FOREIGN KEY (ORD\_ID) REFERENCES `order`(ORD\_ID)

);

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Q2) INSERT INTO TABLE **(can provide the below data to learners)**

INSERT INTO SUPPLIER VALUES(1,"Rajesh Retails","Delhi",'1234567890');

INSERT INTO SUPPLIER VALUES(2,"Appario Ltd.","Mumbai",'2589631470');

INSERT INTO SUPPLIER VALUES(3,"Knome products","Banglore",'9785462315');

INSERT INTO SUPPLIER VALUES(4,"Bansal Retails","Kochi",'8975463285');

INSERT INTO SUPPLIER VALUES(5,"Mittal Ltd.","Lucknow",'7898456532');

INSERT INTO CUSTOMER VALUES(1,"AAKASH",'9999999999',"DELHI",'M');

INSERT INTO CUSTOMER VALUES(2,"AMAN",'9785463215',"NOIDA",'M');

INSERT INTO CUSTOMER VALUES(3,"NEHA",'9999999999',"MUMBAI",'F');

INSERT INTO CUSTOMER VALUES(4,"MEGHA",'9994562399',"KOLKATA",'F');

INSERT INTO CUSTOMER VALUES(5,"PULKIT",'7895999999',"LUCKNOW",'M');

INSERT INTO CATEGORY VALUES( 1,"BOOKS");

INSERT INTO CATEGORY VALUES(2,"GAMES");

INSERT INTO CATEGORY VALUES(3,"GROCERIES");

INSERT INTO CATEGORY VALUES (4,"ELECTRONICS");

INSERT INTO CATEGORY VALUES(5,"CLOTHES");

INSERT INTO PRODUCT VALUES(1,"GTA V","Windows 7 and above with i5 processor and 8GB RAM",2);

INSERT INTO PRODUCT VALUES(2,"TSHIRT","SIZE-L with Black, Blue and White variations",5);

INSERT INTO PRODUCT VALUES(3,"ROG LAPTOP","Windows 10 with 15inch screen, i7 processor, 1TB SSD",4);

INSERT INTO PRODUCT VALUES(4,"OATS","Highly Nutritious from Nestle",3);

INSERT INTO PRODUCT VALUES(5,"HARRY POTTER","Best Collection of all time by J.K Rowling",1);

INSERT INTO PRODUCT VALUES(6,"MILK","1L Toned MIlk",3);

INSERT INTO PRODUCT VALUES(7,"Boat EarPhones","1.5Meter long Dolby Atmos",4);

INSERT INTO PRODUCT VALUES(8,"Jeans","Stretchable Denim Jeans with various sizes and color",5);

INSERT INTO PRODUCT VALUES(9,"Project IGI","compatible with windows 7 and above",2);

INSERT INTO PRODUCT VALUES(10,"Hoodie","Black GUCCI for 13 yrs and above",5);

INSERT INTO PRODUCT VALUES(11,"Rich Dad Poor Dad","Written by RObert Kiyosaki",1);

INSERT INTO PRODUCT VALUES(12,"Train Your Brain","By Shireen Stephen",1);

INSERT INTO SUPPLIER\_PRICING VALUES(1,1,2,1500);

INSERT INTO SUPPLIER\_PRICING VALUES(2,3,5,30000);

INSERT INTO SUPPLIER\_PRICING VALUES(3,5,1,3000);

INSERT INTO SUPPLIER\_PRICING VALUES(4,2,3,2500);

INSERT INTO SUPPLIER\_PRICING VALUES(5,4,1,1000);

INSERT INTO SUPPLIER\_PRICING VALUES(6,12,2,780);

INSERT INTO SUPPLIER\_PRICING VALUES(7,12,4,789);

INSERT INTO SUPPLIER\_PRICING VALUES(8,3,1,31000);

INSERT INTO SUPPLIER\_PRICING VALUES(9,1,5,1450);

INSERT INTO SUPPLIER\_PRICING VALUES(10,4,2,999);

INSERT INTO SUPPLIER\_PRICING VALUES(11,7,3,549);

INSERT INTO SUPPLIER\_PRICING VALUES(12,7,4,529);

INSERT INTO SUPPLIER\_PRICING VALUES(13,6,2,105);

INSERT INTO SUPPLIER\_PRICING VALUES(14,6,1,99);

INSERT INTO SUPPLIER\_PRICING VALUES(15,2,5,2999);

INSERT INTO SUPPLIER\_PRICING VALUES(16,5,2,2999);

INSERT INTO `ORDER` VALUES (101,1500,"2021-10-06",2,1);

INSERT INTO `ORDER` VALUES(102,1000,"2021-10-12",3,5);

INSERT INTO `ORDER` VALUES(103,30000,"2021-09-16",5,2);

INSERT INTO `ORDER` VALUES(104,1500,"2021-10-05",1,1);

INSERT INTO `ORDER` VALUES(105,3000,"2021-08-16",4,3);

INSERT INTO `ORDER` VALUES(106,1450,"2021-08-18",1,9);

INSERT INTO `ORDER` VALUES(107,789,"2021-09-01",3,7);

INSERT INTO `ORDER` VALUES(108,780,"2021-09-07",5,6);

INSERT INTO `ORDER` VALUES(109,3000,"2021-0-10",5,3);

INSERT INTO `ORDER` VALUES(110,2500,"2021-09-10",2,4);

INSERT INTO `ORDER` VALUES(111,1000,"2021-09-15",4,5);

INSERT INTO `ORDER` VALUES(112,789,"2021-09-16",4,7);

INSERT INTO `ORDER` VALUES(113,31000,"2021-09-16",1,8);

INSERT INTO `ORDER` VALUES(114,1000,"2021-09-16",3,5);

INSERT INTO `ORDER` VALUES(115,3000,"2021-09-16",5,3);

INSERT INTO `ORDER` VALUES(116,99,"2021-09-17",2,14);

INSERT INTO RATING VALUES(1,101,4);

INSERT INTO RATING VALUES(2,102,3);

INSERT INTO RATING VALUES(3,103,1);

INSERT INTO RATING VALUES(4,104,2);

INSERT INTO RATING VALUES(5,105,4);

INSERT INTO RATING VALUES(6,106,3);

INSERT INTO RATING VALUES(7,107,4);

INSERT INTO RATING VALUES(8,108,4);

INSERT INTO RATING VALUES(9,109,3);

INSERT INTO RATING VALUES(10,110,5);

INSERT INTO RATING VALUES(11,111,3);

INSERT INTO RATING VALUES(12,112,4);

INSERT INTO RATING VALUES(13,113,2);

INSERT INTO RATING VALUES(14,114,1);

INSERT INTO RATING VALUES(15,115,1);

INSERT INTO RATING VALUES(16,116,0);

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use `new-order-directory`;

Q3) Display the total number of customers based on gender who have placed orders of worth at least Rs.3000.

select count(t2.cus\_gender) as NoOfCustomers, t2.cus\_gender from

(select t1.cus\_id, t1.cus\_gender, t1.ord\_amount, t1.cus\_name from

(select `order`.\*, customer.cus\_gender, customer.cus\_name from `order` inner join customer where `order`.cus\_id=customer.cus\_id having `order`.ord\_amount>=3000)

as t1 group by t1.cus\_id) as t2 group by t2.cus\_gender;

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Q4) Display all the orders along with product name ordered by a customer having Customer\_Id=2

select product.pro\_name, `order`.\* from `order`, supplier\_pricing, product

where `order`.cus\_id=2 and

`order`.pricing\_id=supplier\_pricing.pricing\_id and supplier\_pricing.pro\_id=product.pro\_id;

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Q5) Display the Supplier details of who is supplying more than one product.

select supplier.\* from supplier where supplier.supp\_id in

(select supp\_id from supplier\_pricing group by supp\_id having

count(supp\_id)>1)

group by supplier.supp\_id;

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Q6) Find the least expensive product from each category and print the table with category id, name, and price of the product

select category.cat\_id,category.cat\_name, min(t3.min\_price) as Min\_Price from category inner join

(select product.cat\_id, product.pro\_name, t2.\* from product inner join

(select pro\_id, min(supp\_price) as Min\_Price from supplier\_pricing group by pro\_id)

as t2 where t2.pro\_id = product.pro\_id)

as t3 where t3.cat\_id = category.cat\_id group by t3.cat\_id;

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Q7) Display the Id and Name of the Product ordered after “2021-10-05”.

select product.pro\_id,product.pro\_name from `order` inner join supplier\_pricing on supplier\_pricing.pricing\_id=`order`.pricing\_id inner join product on product.pro\_id=supplier\_pricing.pro\_id where `order`.ord\_date>"2021-10-05";

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Q8) Display customer name and gender whose names start or end with character 'A'.

select customer.cus\_name,customer.cus\_gender from customer where customer.cus\_name like 'A%' or customer.cus\_name like '%A';

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Q9) Create a stored procedure to display supplier id, name, rating and Type\_of\_supplier. If rating >4 then “Genuine Supplier” if rating >2 “Average Supplier” else “Supplier should not be considered”.

**(Please explain with Delimiter and without Delimiter)**

DELIMITER &&

CREATE PROCEDURE proc()

BEGIN

select report.supp\_id,report.supp\_name,report.Average,

CASE

WHEN report.Average =5 THEN 'Excellent Service'

WHEN report.Average >4 THEN 'Good Service'

WHEN report.Average >2 THEN 'Average Service'

ELSE 'Poor Service’

END AS Type\_of\_Service from

(select final.supp\_id, supplier.supp\_name, final.Average from

(select test2.supp\_id, sum(test2.rat\_ratstars)/count(test2.rat\_ratstars) as Average from

(select supplier\_pricing.supp\_id, test.ORD\_ID, test.RAT\_RATSTARS from supplier\_pricing inner join

(select `order`.pricing\_id, rating.ORD\_ID, rating.RAT\_RATSTARS from `order` inner join rating on rating.`ord\_id` = `order`.ord\_id ) as test

on test.pricing\_id = supplier\_pricing.pricing\_id)

as test2 group by supplier\_pricing.supp\_id)

as final inner join supplier where final.supp\_id = supplier.supp\_id) as report;

END &&

DELIMITER ;

call proc();

**Schema:**

