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Question 1 :

1) SQL CODE :

```
CREATE PROCEDURE myPrecuder(IN CustomerID VARCHAR(50))

SELECT o_d.OrderID,

CASE

        WHEN(SUM(o_d.Quantity * o_d.UnitPrice) - SUM(o_d.Quantity * AVG.price)) > 0

                THEN "Loss"

        WHEN(SUM(o_d.Quantity * o_d.UnitPrice) - SUM(o_d.Quantity * AVG.price)) < 0

                THEN "Profit"

        WHEN(SUM(o_d.Quantity * o_d.UnitPrice) - SUM(o_d.Quantity * AVG.price)) = 0

                THEN "Equivalent"

END AS `Profit/Loss`,

ABS(SUM(o_d.Quantity * o_d.UnitPrice) - SUM(o_d.Quantity * AVG.price)) AS `Amount`

FROM(SELECT ProductID, AVG(UnitPrice) AS `Price` FROM `Order Details` GROUP BY
ProductID) AS AVG

JOIN `Order Details` AS o_d ON AVG.ProductID = o_d.ProductID

JOIN `Orders`AS o ON o.OrderID = o_d.OrderID

WHERE CustomerID = o.CustomerID

GROUP BY o_d.OrderID

ORDER BY o_d.OrderID DESC
```

Resut from on SQL :

```sql
1  • CREATE PROCEDURE myPrecuder(IN CustomerID VARCHAR(50))
2     SELECT o_d.OrderID,
3   ⊖ CASE
4         WHEN(SUM(o_d.Quantity * o_d.UnitPrice) - SUM(o_d.Quantity * AVG.price)) > 0
5             THEN "Loss"
6         WHEN(SUM(o_d.Quantity * o_d.UnitPrice) - SUM(o_d.Quantity * AVG.price)) < 0
7             THEN "Profit"
8         WHEN(SUM(o_d.Quantity * o_d.UnitPrice) - SUM(o_d.Quantity * AVG.price)) = 0
9             THEN "Equivalent"
10    └ END AS `Profit/Loss`,
11    ABS(SUM(o_d.Quantity * o_d.UnitPrice) - SUM(o_d.Quantity * AVG.price)) AS `Amount`
12    FROM(SELECT ProductID, AVG(UnitPrice) AS `Price` FROM `Order Details` GROUP BY ProductID) AS AVG
13    JOIN `Order Details` AS o_d ON AVG.ProductID = o_d.ProductID
14    JOIN `Orders`AS o ON o.OrderID = o_d.OrderID
15    WHERE CustomerID = o.CustomerID
16    GROUP BY o_d.OrderID
17    ORDER BY o_d.OrderID DESC
18
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

OrderID	Profit/Loss	Amount
10739	Loss	10.96418244
10737	Loss	6.43659576
10295	Profit	20.06400000
10274	Profit	80.84837997
10248	Profit	87.45087725

2) JAVA CODE :

```java
import java.sql.*;

public class matala2_ex1 {
    public static void main(String[] args) {
        try{
            Class.forName("com.mysql.cj.jdbc.Driver");
            Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/northwind", "ilan2505",
"25051997");
            Statement stmt = con.createStatement();
            String str = semaine4.MyConsole.readString("enter a name : ");
            ResultSet rs = stmt.executeQuery("CALL myPrecuder('" + str + "')");
            while (rs.next())
                System.out.println(rs.getInt(1)+" " + rs.getString(2)+ " " +
rs.getString(3));
            con.close();
        }catch (Exception e){
            System.out.println(e);
        }
    }
}
```

Result on JAVA :

```
"C:\Program Files\Java\jdk-15.0.1\bin\java.exe" "-javaagent:C:\Users\Thierry\Desktop\Ariel unive
enter a name :  VINET
10739 Loss 10.96418244
10737 Loss 6.43659576
10295 Profit 20.06400000
10274 Profit 80.84837997
10248 Profit 87.45087725

Process finished with exit code 0
```

Question 2 :

Question 3 :

1)

```
SELECT OrderID, RequiredDate
WHERE ShippedDate==null AND RequiredDate < NOW()
FROM Orders
```

2)

From the OrderID and RequiredDate columns, where order isn't send and the date is passed : we want to see the rows of these columns.

Question 4 :

1)

The candidate keys are : AB, AC, BD, CD

2)

The normalization form is : 3NF

Because we don't have Non Primes, and it's not a 3,5 NF because no all the sadot from the left are super keys.