|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Transactions** | | | | | | |
| order\_id | mobile | order\_date | item\_name | quantity | status | price |
| 18061299601 | 9662420935 | 2018-06-01 07:53:13 | Ajeet 199 BG II Cotton Seed | 1 | COMPLETE | 740 |
| 18061299601 | 9662420935 | 2018-06-01 07:53:13 | Ajeet 155 BG II Cotton Seed | 1 | COMPLETE | 740 |
| 18061299643 | 8806840998 | 2018-06-01 07:56:15 | MH UPL - F1 HYB Okra Venus Plus (250 Gms) Seed | 1 | COMPLETE | 750 |
| 18061299643 | 8806840998 | 2018-06-01 07:56:15 | MH Greengold Res Tur Gold-100 Seed (2 Kg) | 1 | COMPLETE | 400 |
| 18061299655 | 8805620294 | 2018-06-01 08:22:27 | MH Greengold Res Imp Udid Gold-22 Seed (1 Kg) | 1 | CANCELLED | 250 |
| 18061299655 | 8805620294 | 2018-06-01 08:22:27 | MH Greengold Res Imp Udid Gold-22 Seed (1 Kg) | 1 | CANCELLED | 250 |
| 18061299655 | 8805620294 | 2018-06-01 08:22:27 | MH Greengold Res Imp Moong Gold9 (Shanashwar) Seed (1 Kg) | 1 | CANCELLED | 200 |
| 18061299655 | 8805620294 | 2018-06-01 08:22:27 | MH Greengold Res Imp Moong Gold9 (Shanashwar) Seed (1 Kg) | 1 | CANCELLED | 200 |
| 18061299789 | 7725926916 | 2018-06-01 08:29:31 | RJ VNR - Chilli Rani 332 (10 Gms) Seed | 1 | COMPLETE | 335 |
| 18061300120 | 9913051838 | 2018-06-01 08:03:18 | Vikram 5 BG II Cotton Seed | 1 | COMPLETE | 740 |

**Mobile:** mobile number of the farmer, a farmer can have multiple mobile number corresponding to a single farmer id. **Order\_id:** Unique Order ID, can have multiple products in one id. **Status:** Can be cancelled, complete, processing, delivered, except cancelled all other status is a valid order. **Crop:** Crop name can be derived from Item Name. **Price:** Sale price of the product.

|  |  |  |
| --- | --- | --- |
| **Farmer Table** | | |
| **farmer\_id** | **mobile\_1** | **mobile\_2** |
| 1632 | 9727032179 |  |
| 1635 | 9879105417 | 8238035087 |
| 1638 | 9925504954 | 9928002302 |
| 1641 | 9879223690 |  |
| 1644 | 9925160758 |  |
| 1647 | 9537326066 | 9687611618 |
| 1650 | 9979453907 |  |
| 1653 | 7359832351 | 9923002352 |
| 1656 | 9974035466 |  |
| 1659 | 9979665858 |  |

**1 -** How will you write a SQL query that gives a list of farmer\_id that has featured in top 100 for each of the month of May-18, June-18 & July-18 by total revenue for valid orders.

------------------------

SELECT \* FROM

(

Select DISTINCT  Farmer.farmer\_id

FROM Transactions, Farmer

INNER JOIN Farmer

ON Transactions.mobile = Farmer.mobile\_1

WHERE Transactions.status != “CANCELLED”

GROUP BY DATEPART(Transactions.order\_date)

ORDER BY sum(Transactions.price)

UNION

Select DISTINCT  Farmer.farmer\_id

FROM Transactions, Farmer

INNER JOIN Farmer

ON Transactions.mobile = Farmer.mobile\_2

WHERE Transactions.status != “CANCELLED”

GROUP BY DATEPART(Transactions.order\_date)

ORDER BY sum(Transactions.price)

)

**2 -** How will you write a SQL query to fetch list of farmers that has placed more number of valid orders from mobile\_2 compared to mobile\_1.

SELECT \* FROM

(

Select count(Farmer.farmer\_id) as count\_1

FROM Transactions

INNER JOIN Farmer

ON Transactions.mobile = Farmer.mobile\_1

WHERE Transactions.status != “CANCELLED”;

UNION

Select count(Farmer.farmer\_id) as count\_2

FROM Transactions

INNER JOIN Farmer

ON Transactions.mobile = Farmer.mobile\_2

WHERE Transactions.status != “CANCELLED”;

)

WHERE count\_2 > count\_1

**3 -** How will you write a SQL query that fetch list of farmers that have not placed a valid order for Cotton, but is a prospective cotton farmer.

??

**4 -** How will you get this data using SQL query and/or using R/Python Script  - (for all valid orders except 2nd last field)

|  |
| --- |
| farmer\_id |
| first\_purchase\_dt |
| last\_purchase\_dt |
| 3rd\_purchase\_dt |
| most\_ordered\_product |
| 2nd\_most\_ordered\_product |
| count\_cancelled\_orders\_before\_first\_non-cancelled |
| Is\_cotton\_customer    //valid orders  Select \* from **Transactions**  where status != “CANCELLED”;  //Joining two tables  SELECT \* FROM  (  Select \*  FROM Transactions  INNER JOIN Farmer  ON Transactions.mobile = Farmer.mobile\_1  WHERE Transactions.status != “CANCELLED”;  UNION  Select \*  FROM Transactions  INNER JOIN Farmer  ON Transactions.mobile = Farmer.mobile\_2  WHERE Transactions.status != “CANCELLED”;  )  //python  import pandas as pd  Transaction\_df = pd.read\_sql\_table(“Transactions”)  Farmer\_df = pd.read\_sql\_table(“Farmer”) |