

Churn SQL

Create MAU_CUSTOMER table

```
1 SELECT
2   PARSE_DATE('%Y%m%d', CAST( SHOP_DATE AS STRING )) AS DATE,
3   CUST_CODE,
4   1 AS FLAG_MAU
5 FROM `crm-analytics-331409.Churn.Supermarket`
6 WHERE CUST_CODE IS NOT NULL
7 ORDER BY CUST_CODE, DATE
```

Create CUSTOMER_FIRST_JOIN table

```
1 SELECT
2   MIN(DATE) AS FIRST_DATE,
3   CUST_CODE
4 FROM `crm-analytics-331409.Churn.MAU_CUSTOMER`
5 GROUP BY CUST_CODE
```

Create Churn_dashboard table

```
1 CREATE OR REPLACE PROCEDURE `crm-analytics-331409.Churn.churn`()
2 BEGIN
3
4   DECLARE first_date_this_month DATE;
5   DECLARE last_date_this_month DATE;
6   DECLARE first_date_last_month DATE;
7   DECLARE last_date_last_month DATE;
8
9   DECLARE x DATE;
10  DECLARE y DATE;
11
12  SET x = DATE("2006-04-01");
13  SET y = DATE("2008-07-06");
14
15  WHILE x <= y DO
16
17    SET first_date_this_month = DATE_TRUNC(x, MONTH);
18    SET last_date_this_month = DATE_ADD(DATE_ADD(DATE_TRUNC(x, MONTH), INTERVAL 1 MONTH), INTERVAL -1 DAY);
19    SET first_date_last_month = DATE_ADD(x, INTERVAL -1 MONTH);
20    SET last_date_last_month = DATE_ADD(x, INTERVAL -1 DAY);
21
22    CREATE OR REPLACE TEMP TABLE curr
23    AS
24    SELECT *
25    FROM `crm-analytics-331409.Churn.MAU_CUSTOMER`
26    WHERE DATE BETWEEN first_date_this_month AND last_date_this_month;
```

Create Churn_dashboard table (continue)

```
28 CREATE OR REPLACE TEMP TABLE prev
29 AS
30 SELECT *
31 FROM `crm-analytics-331409.Churn.MAU_CUSTOMER`
32 WHERE DATE BETWEEN first_date_last_month AND last_date_last_month;
33
34 CREATE OR REPLACE TEMP TABLE bf
35 AS
36 SELECT *
37 FROM `crm-analytics-331409.Churn.MAU_CUSTOMER`
38 WHERE DATE < first_date_last_month;
39
40 CREATE OR REPLACE TEMP TABLE curr_mau
41 AS
42 SELECT
43 CUST_CODE,
44 IF(SUM(FLAG_MAU)>=1,1,0) AS MAU
45 FROM curr
46 GROUP BY CUST_CODE;
47
48 CREATE OR REPLACE TEMP TABLE prev_mau
49 AS
50 SELECT
51 CUST_CODE,
52 IF(SUM(FLAG_MAU)>=1,1,0) AS MAU
53 FROM prev
54 GROUP BY CUST_CODE;
```

```
56 CREATE OR REPLACE TEMP TABLE bf_mau
57 AS
58 SELECT
59 CUST_CODE,
60 IF(SUM(FLAG_MAU)>=1,1,0) AS MAU
61 FROM bf
62 GROUP BY CUST_CODE;
63
64 CREATE OR REPLACE TEMP TABLE customer
65 AS
66 SELECT
67 *
68 FROM `crm-analytics-331409.Churn.CUSTOMER_FIRST_JOIN`
69 WHERE FIRST_DATE <= last_date_this_month;
```

```
71 CREATE OR REPLACE TEMP TABLE final
72 AS
73 SELECT
74 first_date_this_month AS MONTH,
75 customer.CUST_CODE,
76 IF(IFNULL(curr_mau.MAU,0) = 1 AND IFNULL(prev_mau.MAU,0) = 0 AND IFNULL(bf_mau.MAU,0) = 0, 1, 0) AS FLAG_NEW,
77 IF(curr_mau.MAU >= 1 AND prev_mau.MAU >= 1, 1, 0) as FLAG_REPEAT,
78 IF(curr_mau.MAU >= 1 AND (prev_mau.MAU is null OR prev_mau.MAU = 0) AND bf_mau.MAU >= 1, 1, 0) as FLAG_REACTIVE,
79 IF((curr_mau.MAU IS NULL OR curr_mau.MAU = 0) AND prev_mau.MAU >= 1, 1, 0) AS FLAG_CHURN
80 FROM customer
81 LEFT JOIN curr_mau
82 ON customer.CUST_CODE = curr_mau.CUST_CODE
83 LEFT JOIN bf_mau
84 ON customer.CUST_CODE = bf_mau.CUST_CODE
85 LEFT JOIN prev_mau
86 ON customer.CUST_CODE = prev_mau.CUST_CODE;
87
88 INSERT INTO `crm-analytics-331409.Churn.Churn_dashboard`
89 (MONTH, CUST_CODE, FLAG_NEW, FLAG_REPEAT, FLAG_REACTIVE, FLAG_CHURN)
90 SELECT MONTH, CUST_CODE, FLAG_NEW, FLAG_REPEAT, FLAG_REACTIVE, FLAG_CHURN
91 FROM final;
92
93 SET x = DATE_ADD(x, INTERVAL 1 MONTH);
94
95 END WHILE;
96
97 END;
```

```
1 CALL `crm-analytics-331409.Churn.churn`();
```

