**Assignment 11: Customer Movement Analysis**

1. SQL Query

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| with monthly as (  SELECT distinct CUST\_CODE,  cast(SUBSTR(CAST(shop\_date AS STRING),1,6) as NUMERIC) as year\_month  FROM `nida-workshop.SUPERMARKET.TRANSACTIONS\_2STORES`  where cust\_code is not null  order by year\_month ASC),    monthly\_next\_last as (  select year\_month,  CUST\_CODE,  lag(year\_month) over(PARTITION BY CUST\_CODE ORDER BY year\_month ASC) as last\_period,  lead(year\_month) over(PARTITION BY CUST\_CODE ORDER BY year\_month ASC) as next\_period,  from monthly),    customer\_movement as (  select CUST\_CODE,year\_month,  case  when cast((year\_month-last\_period)-(FLOOR(year\_month/100)-FLOOR(last\_period/100))\*88 as int64) = 1 then 'REPEAT'  when cast((year\_month-last\_period)-(FLOOR(year\_month/100)-FLOOR(last\_period/100))\*88 as int64) > 1 then 'REACTIVATED'  when cast((year\_month-last\_period)-(FLOOR(year\_month/100)-FLOOR(last\_period/100))\*88 as int64) is null then 'NEW'  end as cust\_type  from monthly\_next\_last  union all  select CUST\_CODE,  CAST((FLOOR(year\_month/100)+(case when MOD(year\_month,100) = 12 then 1 else 0 end))\*100+(case when MOD(MOD(year\_month+1,100),12) = 0 then 12 else MOD(MOD(year\_month+1,100),12) end) as int64) as yearmonth,  case  when cast((next\_period-year\_month)-(FLOOR(next\_period/100)-FLOOR(year\_month/100))\*88 as int64) > 1 then 'CHURNED'  end as cust\_type  from monthly\_next\_last  where (cast((next\_period-year\_month)-(FLOOR(next\_period/100)-FLOOR(year\_month/100))\*88 as int64) > 1)  order by CUST\_CODE,year\_month)  select year\_month,  cust\_type,  case  when cust\_type = 'CHURNED' then sum(-1)  else sum(1)  end as num\_cust  from customer\_movement  group by year\_month,cust\_type  order by year\_month |

1. SQL Result

Table

Description automatically generated Table

Description automatically generated

1. Customer Movement Dashboard

Chart, bar chart

Description automatically generated