

Finding average time between orders for loyalty vs nonloyalty

--for each customer, find dates that represent gaps between every order

```
WITH gapdate AS (  
  SELECT orders.customer_id  
    ,customers.loyalty_program  
    ,orders.purchase_ts AS secondorder  
    ,LAG(orders.purchase_ts,1) OVER (PARTITION BY orders.customer_id ORDER BY  
orders.purchase_ts) AS firstorder  
  FROM core.orders  
    LEFT JOIN core.customers  
    ON orders.customer_id = customers.id  
)
```

--calculate the average time between orders and number of repeat customers and group by loyalty program

```
SELECT loyalty_program  
  ,AVG(DATE_DIFF(secondorder,firstorder,DAY)) AS gapbetweenorders  
  ,COUNT(DISTINCT customer_id) AS numberofrepeatcustomers  
FROM gapdate  
WHERE firstorder IS NOT NULL AND loyalty_program IS NOT NULL  
GROUP BY loyalty_program
```

Comparing AOV across regions

-- finding AOV across regions

```
SELECT geo_lookup.region  
  ,AVG(orders.usd_price)  
FROM core.orders  
  LEFT JOIN core.customers_orig  
  ON orders.customer_id = customers_orig.id  
  LEFT JOIN core.geo_lookup  
  ON customers_orig.country_code = geo_lookup.country_code  
GROUP BY 1
```

Dips in October and February across regions

--Is October and February dips worst in certain regions?

```
WITH MonthlyRevenue AS(  
  SELECT  
    EXTRACT(YEAR FROM order_status.delivery_ts) AS Year  
    ,EXTRACT (MONTH FROM order_status.delivery_ts) AS Month
```

```

    ,SUM(orders.usd_price) AS tot_revenue
    ,geo_lookup.region AS Region
FROM core.orders
    LEFT JOIN core.order_status
    ON orders.id = order_status.order_id
    LEFT JOIN core.customers_orig
    ON orders.customer_id = customers_orig.id
    LEFT JOIN core.geo_lookup
    ON customers_orig.country_code = geo_lookup.country_code
GROUP BY
    Year
    ,Month
    ,Region
),
OctMonthlyComparison AS(
    SELECT
        month1.Year
        ,((SUM(month2.tot_revenue) / SUM(month1.tot_revenue)) - 1) * 100 AS percent_change
        ,month1.Region
    FROM MonthlyRevenue AS month1
        INNER JOIN MonthlyRevenue AS month2
        ON month1.Year = month2.Year
    WHERE
        month1.Month = 9 --September
        AND month2.Month = 10 --October
    GROUP BY
        Year
        ,Region
),
FebMonthlyComparison AS(
    SELECT
        month1.Year
        ,((SUM(month2.tot_revenue) / SUM(month1.tot_revenue)) - 1) * 100 AS percent_change
        ,month1.Region
    FROM MonthlyRevenue AS month1
        INNER JOIN MonthlyRevenue AS month2

```

```
    ON month1.Year = month2.Year
WHERE
    month1.Month = 1 --January
    AND month2.Month = 2 --February
GROUP BY
    Year
    ,Region
)

SELECT
    OctMonthlyComparison.Region
    ,AVG(OctMonthlyComparison.percent_change) AS OctoberDip
    ,AVG(FebMonthlyComparison.percent_change) AS FebruaryDip
FROM OctMonthlyComparison
    INNER JOIN FebMonthlyComparison
    ON OctMonthlyComparison.Year = FebMonthlyComparison.Year
    AND OctMonthlyComparison.Region = FebMonthlyComparison.Region
GROUP BY
    Region
```