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/*
P1: Free Hotel Meal
P2: Free Checked Bag
P3: No Cancellation Fees
P4: Exclusive Discounts
P5: 1 Night Free Hotel with Flight
*/
WITH cohortID AS (
  SELECT DISTINCT user_id
  FROM sessions
  WHERE session_start >= DATE '2023-01-04'
  GROUP BY sessions.user_id
  HAVING COUNT(*) > 7),
P1_group AS
(
  SELECT s.user_id,
  SUM(CASE WHEN s.hotel_discount THEN 1 ELSE 0 END) :: FLOAT / COUNT(*)
  AS hotel_discount_proportion,
  AVG(s.hotel_discount_amount) AS avg_hotel_discount,
  CASE WHEN SUM(h.nights) > 0 THEN
  (SUM(h.hotel_per_room_usd * h.rooms * s.hotel_discount_amount) /
  SUM(h.nights)) ELSE 0 END AS scaled_night
          FROM hotels AS h
          INNER JOIN sessions AS s ON h.trip_id = s.trip_id
          WHERE (s.session_start >= DATE '2023-01-04'
        AND s.user_id in (SELECT user_id FROM cohortID))
          GROUP BY 1
),
P1_perk AS
(
  SELECT user_id,
  hotel_discount_proportion * avg_hotel_discount *
  (scaled_night - MIN(scaled_night) OVER()) /
  (MAX(scaled_night) OVER() - MIN(scaled_night) OVER()) AS free_hotel_meal_index
  FROM P1_group
),
P2_group AS (
 SELECT s.user_id,
  SUM(fl.checked_bags)::FLOAT / COUNT(*) as avg_checked_bags
  FROM sessions s
  LEFT JOIN flights fl
          ON fl.trip_id = s.trip_id
  WHERE user_id IN (SELECT user_id FROM cohortID)
  AND session_start >= DATE '2023-01-04'
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  GROUP BY 1
),
P2_perk AS (
  SELECT user_id,
  (avg_checked_bags - MIN(avg_checked_bags) OVER()) /
  (MAX(avg_checked_bags) OVER() - MIN(avg_checked_bags) OVER()) AS
avg_checked_bags_index
  FROM P2_group
),
P3_group AS
(
  SELECT user_id,
  SUM(CASE WHEN cancellation IS TRUE THEN 1 ELSE 0 END)::FLOAT /
   SUM(CASE WHEN flight_booked IS TRUE OR hotel_booked IS TRUE THEN 1 ELSE 0 END)
  AS cancellation_rate
  FROM sessions
  WHERE session_start >= DATE '2023-01-04'
  AND user_id IN (SELECT user_id FROM cohortID)
  GROUP BY 1
  HAVING COUNT(trip_id) > 0
),
P3_perk AS
(
  SELECT user_id,
  (cancellation_rate - MIN(cancellation_rate) OVER()) /
  (MAX(cancellation_rate) OVER() - MIN(cancellation_rate) OVER())
  AS cancellation_index
          FROM P3_group
),
P4_group AS (
  SELECT s.user_id,
  SUM(CASE WHEN flight_discount THEN 1 ELSE 0 END)::FLOAT / COUNT(*) AS
flight_discount_percent,
  AVG(s.flight_discount_amount) AS avg_flight_discount,
  SUM(s.flight_discount_amount*f.base_fare_usd)/

SUM(haversine_distance(a.home_airport_lat,a.home_airport_lon,f.destination_airport_lat,f.desti
nation_airport_lon))
  AS ADS
  FROM flights f
  INNER JOIN
  (SELECT DISTINCT home_airport, home_airport_lat,home_airport_lon FROM users) AS a
          ON f.origin_airport = a.home_airport
  INNER JOIN sessions s
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        ON s.trip_id = f.trip_id
  WHERE s.user_id IN (SELECT user_id FROM cohortID)
  AND session_start >= DATE '2023-01-04'
  GROUP BY 1
),
P4_perk AS
(
SELECT user_id,
flight_discount_percent * avg_flight_discount * ((ADS - MIN(ADS) OVER()) /
(MAX(ADS) OVER() - MIN(ADS) OVER())) AS bargain_hunter_index
FROM P4_group
),
P5_group AS
(
SELECT user_id,
SUM(CASE WHEN flight_booked = 'true' AND hotel_booked = 'true' THEN 1 ELSE 0
END)::FLOAT /
SUM(CASE WHEN flight_booked = 'true' OR hotel_booked = 'true' THEN 1 ELSE 0 END)
  AS flight_hotel_booked_rate
  FROM sessions
  WHERE session_start >= DATE '2023-01-04'
  AND user_id in (SELECT user_id FROM cohortID)
        GROUP BY 1
  HAVING COUNT(trip_id) > 0
),
P5_perk AS
(
  SELECT user_id,
  (flight_hotel_booked_rate - MIN(flight_hotel_booked_rate) OVER()) /
  (MAX(flight_hotel_booked_rate) OVER() - MIN(flight_hotel_booked_rate) OVER())
  AS flight_hotel_booked_index
  FROM P5_group
)
SELECT
    p2.user_id,
    free_hotel_meal_index,
    avg_checked_bags_index,
    cancellation_index,
    bargain_hunter_index,
    flight_hotel_booked_index
FROM P2_perk p2
LEFT JOIN P1_perk p1
        ON p2.user_id = p1.user_id
LEFT JOIN P3_perk p3
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        ON p2.user_id = p3.user_id
LEFT JOIN P4_perk p4
        ON p2.user_id = p4.user_id
LEFT JOIN P5_perk p5
        ON p2.user_id = p5.user_id
```