SQL 고객 추천 로직

1. 고객 수(상위 50% 이상), 리뷰 수(8개 이상)를 바탕으로 평점별 추천

```
SELECT product_name, discounted_price, rating, rating_count
FROM modulabs-project-480302.day4.amazon
WHERE rating_count > (SELECT PERCENTILE_CONT(rating_count,0.9) OVER () FROM `modulabs-project-480302.day4.amaz
on` LIMIT 1)
  AND ARRAY_LENGTH(SPLIT(review_id)) >= 8
ORDER BY rating DESC, rating_count DESC
LIMIT 10;
```

2. 고객 기반 개인화(비슷한 카테고리 + 이걸 산 고객의 구매 내역 + 보고 있는 제품과 비슷한 가격)

    a. 카테고리 내 비슷한 제품 (마지막 카테고리가 같음, 보고 있는 제품의 +- 20% 가격)
    ex) 타겟 product_id : B0BPJBTB3F

```
WITH Cat AS(
SELECT *,
  REGEXP_EXTRACT(category, r'[^|]+$') AS last1_cat
FROM modulabs-project-480302.day4.amazon
),
Cat_Based_Recommendation AS(
SELECT product_id
FROM Cat
WHERE last1_cat=(SELECT last1_cat FROM Cat WHERE product_id = 'B0BPJBTB3F') -- 타겟 카테고리 : FanHeaters
  AND (discounted_price >= (SELECT discounted_price FROM Cat WHERE product_id = 'B0BPJBTB3F')*0.8
    AND discounted_price <= (SELECT discounted_price FROM Cat WHERE product_id = 'B0BPJBTB3F')*1.2) -- 타켓 가격 :
1299.0
  AND product_id != 'B0BPJBTB3F'
)

SELECT product_name,about_product,discounted_price,rating,rating_count
FROM modulabs-project-480302.day4.amazon AS am
JOIN Cat_Based_Recommendation AS r
ON am.product_id=r.product_id
ORDER BY rating_count DESC, rating DESC;
```

    b. 비슷한 카테고리 내, 구매한 고객이 본 또 다른 상품 (마지막 두 번째 카테고리가 같음, 구매한 고객의 다른 구매 제품)
    ex) 타겟 타겟 product_id : B07JW9H4J1

```
WITH UserIdSplit AS(
SELECT DISTINCT product_id,
  user_id_split,
  REGEXP_EXTRACT(category, r'([^|]+)\|[^|]+$') AS last2_cat,
FROM modulabs-project-480302.day4.amazon am,
  UNNEST(SPLIT(user_id,',')) AS user_id_split
),
User_Based_Recommendation AS(
SELECT DISTINCT product_id
FROM UserIdSplit uis
JOIN (SELECT DISTINCT user_id_split FROM UserIdSplit WHERE product_id = 'B07JW9H4J1') target_
ON uis.user_id_split=target_.user_id_split
WHERE product_id != 'B07JW9H4J1'
  AND last2_cat = (SELECT DISTINCT last2_cat FROM UserIdSplit WHERE product_id = 'B07JW9H4J1')
)

SELECT product_name,about_product,discounted_price,rating,rating_count
FROM modulabs-project-480302.day4.amazon AS am
JOIN User_Based_Recommendation AS r
```

```
ON am.product_id=r.product_id
ORDER BY rating_count DESC, rating DESC;
```

3. 보석 발굴하기! 판매가 적은데, 평점이 좋은 제품을 추천.

```
SELECT product_id, rating, rating_count
FROM modulabs-project-480302.day4.amazon
WHERE ARRAY_LENGTH(SPLIT(review_id,','))>=8
  AND rating NOT LIKE '%|%'
  AND CAST(rating AS float64) > 4.0
ORDER BY 3
LIMIT 10;
```