Query Report - Analytics Page

Before indices - small DB (1000 100 1000 10000)
57.67 sec, 62.64 sec, 56.66 sec → 58.99 sec
Before indices - large DB (1000 100 10000 10000000)
> 30 min
After indices - small DB
58.23 sec, 57.24 sec, 57.09 sec → 57.52 sec
After indices - large DB
> 30 min

Query 1 (creates temp table)

Settings: Customers, Alphabetical, All Categories
AND Customers, Top-K, All Categories
Use this query:

```
CREATE
TEMPORARY TABLE TEMP AS
 (SELECT username,
       productname,
       coalesce(totalprice, 0) AS totalprice
  FROM
   (SELECT a.username,
         a.productname,
         b.totalprice
    FROM
     (SELECT u.name AS username,
                 p.name AS productname
      FROM users u,
          products p) a
    FULL OUTER JOIN
     (SELECT u.name AS username,
                 p.name AS productname,
                       SUM(o.quantity * o.price) AS totalprice
      FROM users u,
          orders o,
          products p
      WHERE u.id = o.user_id
       AND p.id = o.product_id
      GROUP BY u.name,
            p.name) b ON a.username = b.username
```

```
    AND a.productname = b.productname
    ORDER BY username,
           productname) a)
```

Settings: Customers, Alphabetical, Specific Category
AND Customers, Top-K, Specific Category
Use this query:

```
CREATE
TEMPORARY TABLE TEMP AS
  (SELECT username,
          productname,
          coalesce(totalprice, 0) AS totalprice
   FROM
     (SELECT a.username,
             a.productname,
             b.totalprice
      FROM
        (SELECT u.name AS username,
                p.name AS productname
         FROM users u,
              products p,
              categories c
         WHERE p.category_id = c.id
           AND c.id = 4) a
      FULL OUTER JOIN
        (SELECT u.name AS username,
                p.name AS productname,
                       SUM(o.quantity * o.price) AS totalprice
         FROM users u,
              orders o,
              products p,
              categories c
         WHERE u.id = o.user_id
           AND p.id = o.product_id
           AND c.id = p.category_id
           AND c.id = 4
         GROUP BY u.name,
                  p.name) b ON a.username = b.username
      AND a.productname = b.productname
      ORDER BY username,
             productname) a)
```

Settings: States, Alphabetical, All Categories
AND States, Top-K, All Categories
Use this query:

```
CREATE
TEMPORARY TABLE TEMP AS
  (SELECT STATE,
          productname,
          coalesce(totalprice, 0) AS totalprice
   FROM
     (SELECT a.STATE,
             a.productname,
             b.totalprice
      FROM
        (SELECT DISTINCT u.STATE,
                         p.name AS productname
         FROM users u,
              products p) a
      FULL OUTER JOIN
        (SELECT u.STATE,
                p.name AS productname,
                       SUM(o.quantity * o.price) AS totalprice
         FROM users u,
              orders o,
              products p
         WHERE u.id = o.user_id
           AND p.id = o.product_id
         GROUP BY u.STATE,
                  p.name) b ON a.STATE = b.STATE
      AND a.productname = b.productname
      ORDER BY STATE,
               productname) AS x)
```

Settings: States, Alphabetical, Specific Category
AND States, Top-K, Specific Category
Use this query:

```
CREATE
TEMPORARY TABLE TEMP AS
  (SELECT STATE,
          productname,
```

```
       coalesce(totalprice, 0) AS totalprice
  FROM
    (SELECT a.STATE,
            a.productname,
            b.totalprice
     FROM
       (SELECT DISTINCT u.STATE,
                        p.name AS productname
        FROM users u,
             products p,
             categories c
        WHERE p.category_id = c.id
          AND c.id = 2) a
     FULL OUTER JOIN
       (SELECT u.STATE,
               p.name AS productname,
                       SUM(o.quantity * o.price) AS totalprice
        FROM users u,
             orders o,
             products p,
             categories c
        WHERE u.id = o.user_id
          AND p.id = o.product_id
          AND c.id = p.category_id
          AND c.id = 2
        GROUP BY u.STATE,
                 p.name) b ON a.STATE = b.STATE
     AND a.productname = b.productname
     ORDER BY STATE,
              productname) AS x)
```

Query 2 (use temp table to produce table cells)

Settings: Customers, Alphabetical, All Categories
AND Customers, Alphabetical, Specific Category
Use this query:

```
SELECT e.username,
       e.userTotal,
       e.productname,
       e.totalprice,
       f.productTotal
FROM
  (SELECT x.username,
```

```
        userTotal,
        productname,
        totalprice
  FROM
    (SELECT username,
          SUM(totalprice) AS userTotal
     FROM TEMP AS x
     GROUP BY username) AS z
  JOIN TEMP AS x ON z.username = x.username
  ORDER BY userTotal DESC) AS e
JOIN
  (SELECT x.username,
        productTotal,
        z.productname,
        totalprice
  FROM
    (SELECT productname,
          SUM(totalprice) AS productTotal
     FROM TEMP AS y
     GROUP BY productname) AS z
  JOIN TEMP AS x ON z.productname = x.productname
  ORDER BY productTotal DESC) AS f ON e.username = f.username
AND e.productname = f.productname
ORDER BY e.username ASC,
       e.productname ASC
```

Settings: Customers, Top-K, All Categories
AND Customers, Top-K, Specific Category
Use this query:

```
SELECT e.username,
      e.userTotal,
      e.productname,
      e.totalprice,
      f.productTotal
FROM
  (SELECT x.username,
        userTotal,
        productname,
        totalprice
  FROM
    (SELECT username,
          SUM(totalprice) AS userTotal
     FROM TEMP AS x
```

```
    GROUP BY username) AS z
  JOIN TEMP AS x ON z.username = x.username
  ORDER BY userTotal DESC) AS e
JOIN
 (SELECT x.username,
         productTotal,
         z.productname,
         totalprice
  FROM
   (SELECT productname,
           SUM(totalprice) AS productTotal
    FROM TEMP AS y
    GROUP BY productname) AS z
  JOIN TEMP AS x ON z.productname = x.productname
  ORDER BY productTotal DESC) AS f ON e.username = f.username
AND e.productname = f.productname
ORDER BY e.usertotal DESC,
         e.username ASC,
         f.producttotal DESC,
         e.productname ASC
```

Settings: States, Alphabetical, All Categories
AND States, Alphabetical, Specific Category
Use this query:

```
SELECT e.state AS username,
       e.userTotal,
       e.productname,
       e.totalprice,
       f.productTotal
FROM
 (SELECT x.state,
         userTotal,
         productname,
         totalprice
  FROM
   (SELECT STATE,
           SUM(totalprice) AS userTotal
    FROM TEMP AS x
    GROUP BY STATE) AS z
  JOIN TEMP AS x ON z.STATE = x.STATE
  ORDER BY userTotal DESC) AS e
JOIN
 (SELECT x.STATE,
         productTotal,
```

```
        z.productname,
        totalprice
  FROM
   (SELECT productname,
        SUM(totalprice) AS productTotal
    FROM TEMP AS y
    GROUP BY productname) AS z
  JOIN TEMP AS x ON z.productname = x.productname
  ORDER BY productTotal DESC) AS f ON e.STATE = f.STATE
AND e.productname = f.productname
ORDER BY e.STATE ASC, e.productname ASC
```

Settings: States, Top-K, All Categories
AND States, Top-K, Specific Category
Use this query:

```
SELECT e.state AS username,
      e.userTotal,
      e.productname,
      e.totalprice,
      f.productTotal
FROM
  (SELECT x.state,
        userTotal,
        productname,
        totalprice
  FROM
   (SELECT STATE,
        SUM(totalprice) AS userTotal
    FROM TEMP AS x
    GROUP BY STATE) AS z
  JOIN TEMP AS x ON z.STATE = x.STATE
  ORDER BY userTotal DESC) AS e
JOIN
  (SELECT x.STATE,
        productTotal,
        z.productname,
        totalprice
  FROM
   (SELECT productname,
        SUM(totalprice) AS productTotal
    FROM TEMP AS y
```

```
    GROUP BY productname) AS z
  JOIN TEMP AS x ON z.productname = x.productname
  ORDER BY productTotal DESC) AS f ON e.STATE = f.STATE
AND e.productname = f.productname
ORDER BY e.usertotal DESC,
       e.STATE ASC, f.producttotal DESC,
              e.productname ASC
```