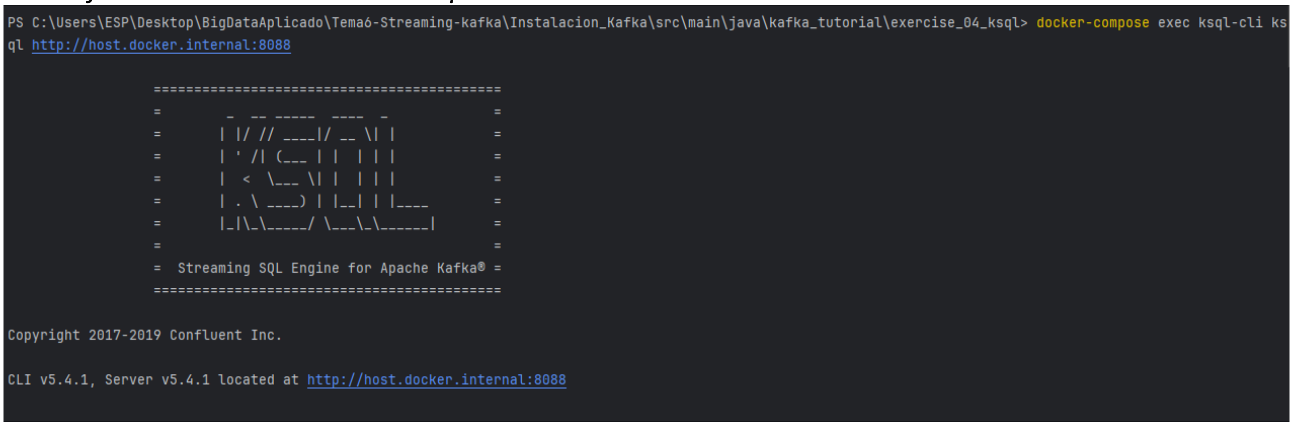
Exercise_04_KSQL

1.- Ejecuta desde la terminal los pasos del fichero README asociado al ejercicio. Pega las imágenes de la ejecución de cada uno de los pasos.



```
PS C:\Users\ESP\Desktop\BigDataAplicado\Tema6-Streaming-kafka\Instalacion_Kafka\src\main\java\kafka_tutorial\exercise_04_ksql> docker-compose exec ksql-cli ks
ql http://host.docker.internal:8088

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                  =  Streaming SQL Engine for Apache Kafka® =
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CLI v5.4.1, Server v5.4.1 located at http://host.docker.internal:8088
```
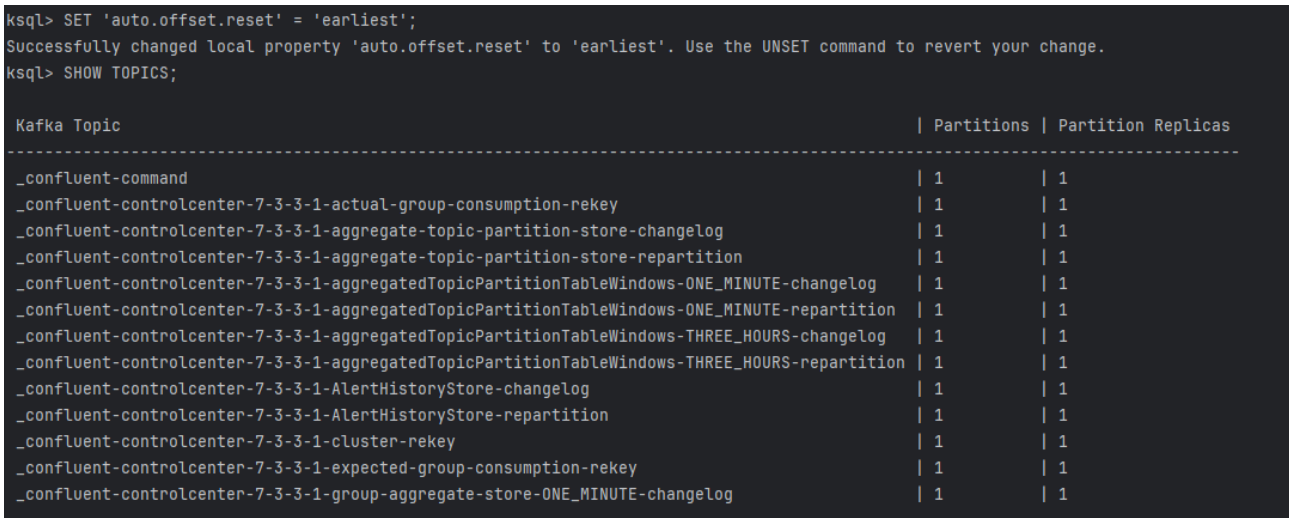
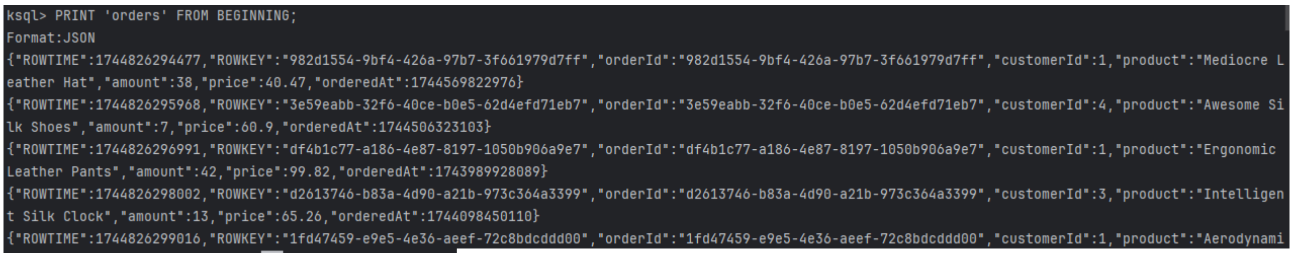
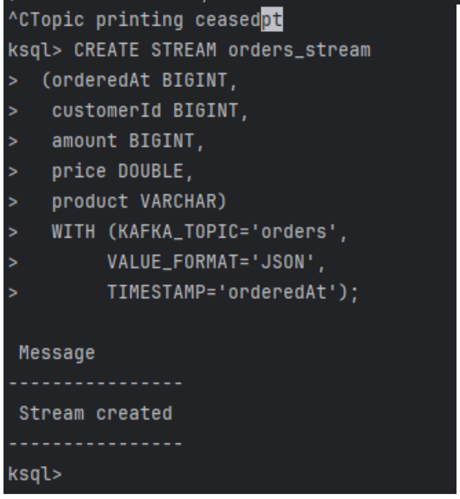



```
ksql> SET 'auto.offset.reset' = 'earliest';
Successfully changed local property 'auto.offset.reset' to 'earliest'. Use the UNSET command to revert your change.
ksql> SHOW TOPICS;

 Kafka Topic                                                                              | Partitions | Partition Replicas
-------------------------------------------------------------------------------------------------------------------------------
 _confluent-command                                                                       | 1          | 1
 _confluent-controlcenter-7-3-3-1-actual-group-consumption-rekey                          | 1          | 1
 _confluent-controlcenter-7-3-3-1-aggregate-topic-partition-store-changelog               | 1          | 1
 _confluent-controlcenter-7-3-3-1-aggregate-topic-partition-store-repartition             | 1          | 1
 _confluent-controlcenter-7-3-3-1-aggregatedTopicPartitionTableWindows-ONE_MINUTE-changelog   | 1          | 1
 _confluent-controlcenter-7-3-3-1-aggregatedTopicPartitionTableWindows-ONE_MINUTE-repartition | 1          | 1
 _confluent-controlcenter-7-3-3-1-aggregatedTopicPartitionTableWindows-THREE_HOURS-changelog  | 1          | 1
 _confluent-controlcenter-7-3-3-1-aggregatedTopicPartitionTableWindows-THREE_HOURS-repartition | 1          | 1
 _confluent-controlcenter-7-3-3-1-AlertHistoryStore-changelog                             | 1          | 1
 _confluent-controlcenter-7-3-3-1-AlertHistoryStore-repartition                           | 1          | 1
 _confluent-controlcenter-7-3-3-1-cluster-rekey                                           | 1          | 1
 _confluent-controlcenter-7-3-3-1-expected-group-consumption-rekey                        | 1          | 1
 _confluent-controlcenter-7-3-3-1-group-aggregate-store-ONE_MINUTE-changelog              | 1          | 1
```



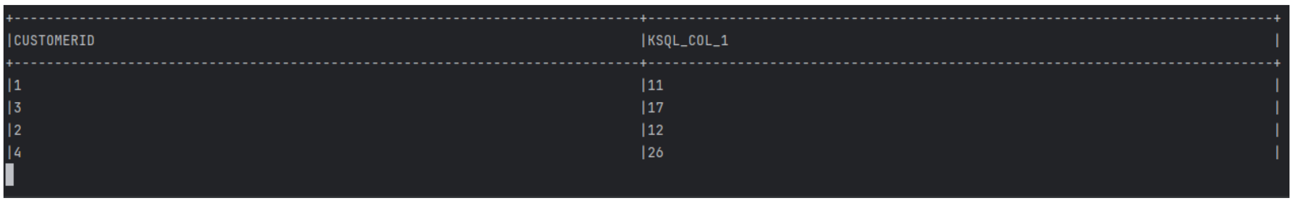
```
ksql> PRINT 'orders' FROM BEGINNING;
Format:JSON
{"ROWTIME":1744826294477,"ROWKEY":"982d1554-9bf4-426a-97b7-3f661979d7ff","orderId":"982d1554-9bf4-426a-97b7-3f661979d7ff","customerId":1,"product":"Mediocre L
eather Hat","amount":38,"price":40.47,"orderedAt":1744569822976}
{"ROWTIME":1744826295968,"ROWKEY":"3e59eabb-32f6-40ce-b0e5-62d4efd71eb7","orderId":"3e59eabb-32f6-40ce-b0e5-62d4efd71eb7","customerId":4,"product":"Awesome Si
lk Shoes","amount":7,"price":60.9,"orderedAt":1744506323103}
{"ROWTIME":1744826296991,"ROWKEY":"df4b1c77-a186-4e87-8197-1050b906a9e7","orderId":"df4b1c77-a186-4e87-8197-1050b906a9e7","customerId":1,"product":"Ergonomic
Leather Pants","amount":42,"price":99.82,"orderedAt":1743989928089}
{"ROWTIME":1744826298002,"ROWKEY":"d2613746-b83a-4d90-a21b-973c364a3399","orderId":"d2613746-b83a-4d90-a21b-973c364a3399","customerId":3,"product":"Intelligen
t Silk Clock","amount":13,"price":65.26,"orderedAt":1744098450110}
{"ROWTIME":1744826299016,"ROWKEY":"1fd47459-e9e5-4e36-aeef-72c8bdcddd00","orderId":"1fd47459-e9e5-4e36-aeef-72c8bdcddd00","customerId":1,"product":"Aerodynami
```



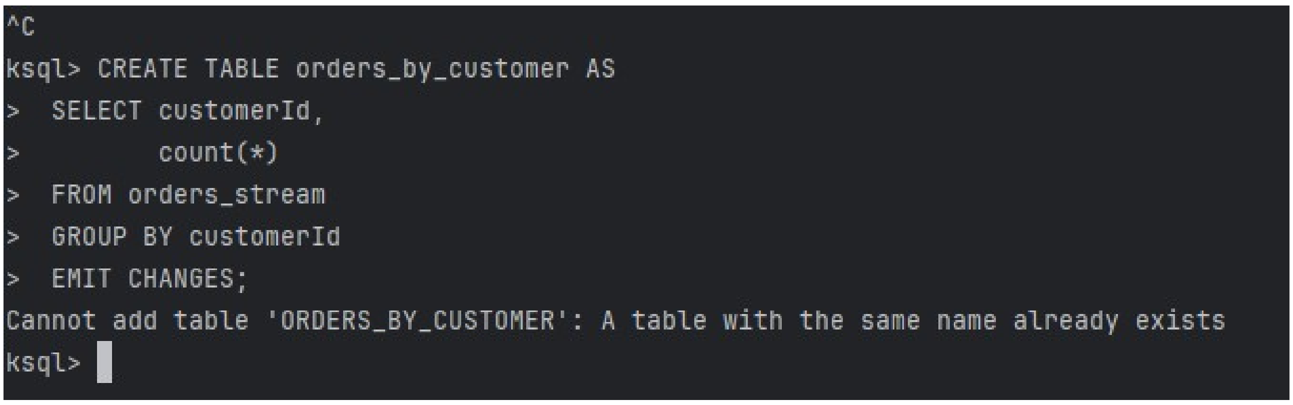
```
^CTopic printing ceasedpt
ksql> CREATE STREAM orders_stream
>  (orderedAt BIGINT,
>   customerId BIGINT,
>   amount BIGINT,
>   price DOUBLE,
>   product VARCHAR)
>   WITH (KAFKA_TOPIC='orders',
>        VALUE_FORMAT='JSON',
>        TIMESTAMP='orderedAt');

 Message
----------------
 Stream created
----------------
ksql>
ksql> SELECT * FROM orders_stream WHERE customerId = 1 EMIT CHANGES;
```

```
|                |df5-53f3129682ae    |                 |                 |                 |hoes              |
```

```
SELECT customerId,
         count(*)
  FROM orders_stream
  GROUP BY customerId
  EMIT CHANGES;
```

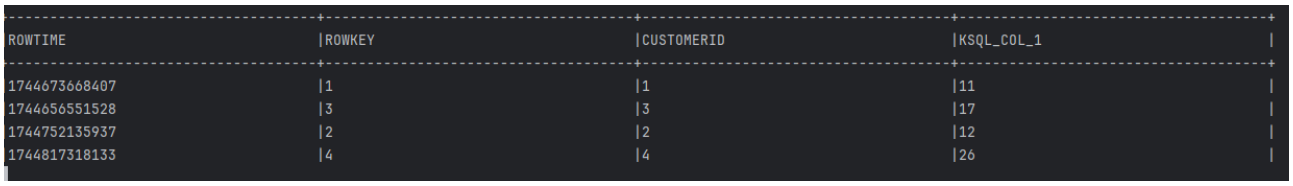


```
+---------------------------------------------------------------------+---------------------------------------------------------------------+
|CUSTOMERID                                                           |KSQL_COL_1                                                           |
+---------------------------------------------------------------------+---------------------------------------------------------------------+
|1                                                                    |11                                                                   |
|3                                                                    |17                                                                   |
|2                                                                    |12                                                                   |
|4                                                                    |26                                                                   |
```



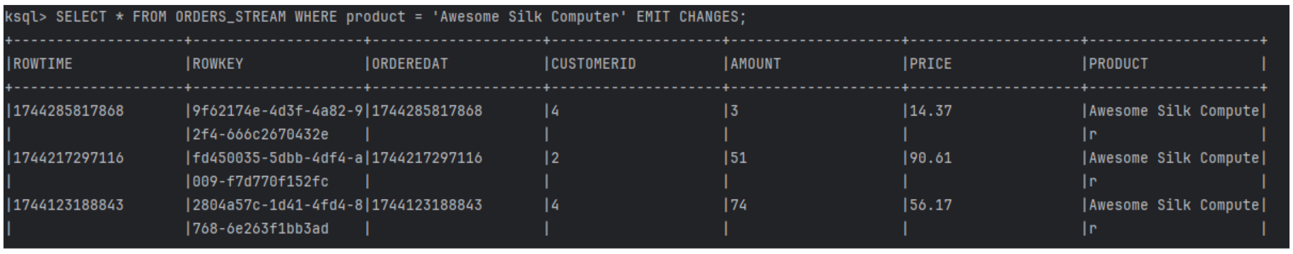
```
^C
ksql> CREATE TABLE orders_by_customer AS
>   SELECT customerId,
>          count(*)
>   FROM orders_stream
>   GROUP BY customerId
>   EMIT CHANGES;
Cannot add table 'ORDERS_BY_CUSTOMER': A table with the same name already exists
ksql>
```

```
select * from orders_by_customer emit changes;
```



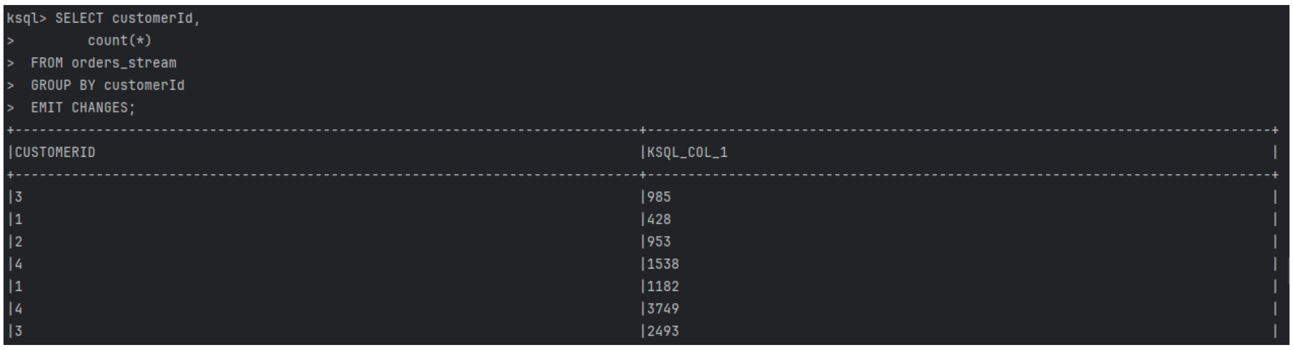
```
+----------------------------------+----------------------------------+----------------------------------+----------------------------------+
|ROWTIME                           |ROWKEY                            |CUSTOMERID                        |KSQL_COL_1                        |
+----------------------------------+----------------------------------+----------------------------------+----------------------------------+
|1744673668407                     |1                                 |1                                 |11                                |
|1744656551528                     |3                                 |3                                 |17                                |
|1744752135937                     |2                                 |2                                 |12                                |
|1744817318133                     |4                                 |4                                 |26                                |
```

2.- Filtrar por el producto "Awesome Silk Computer". Copia y pega la consulta KSQL ejecutada y el resultado de la ejecución de la consola.



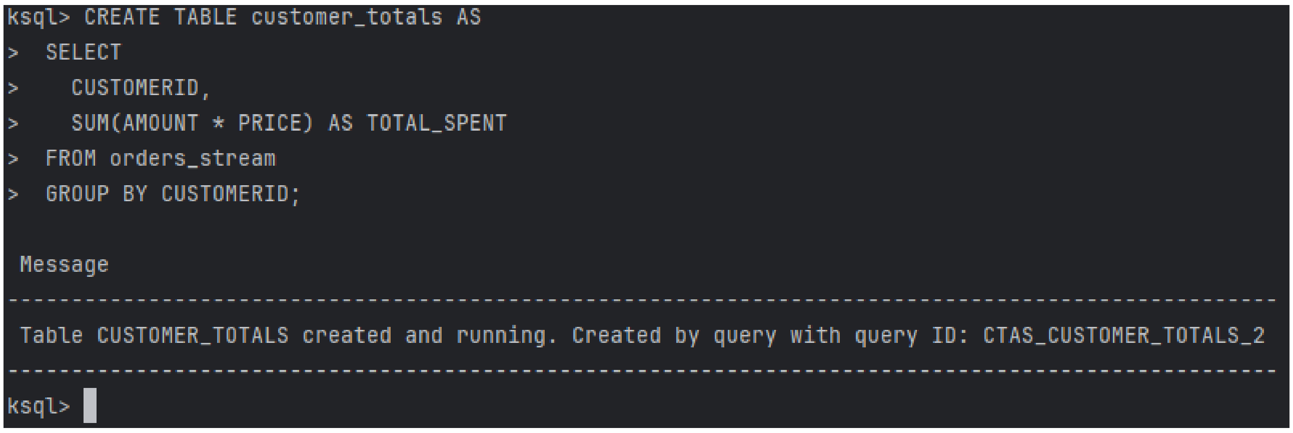
```
ksql> SELECT * FROM ORDERS_STREAM WHERE product = 'Awesome Silk Computer' EMIT CHANGES;
+------------------+------------------+------------------+------------------+------------------+------------------+------------------+
|ROWTIME           |ROWKEY            |ORDEREDAT         |CUSTOMERID        |AMOUNT            |PRICE             |PRODUCT           |
+------------------+------------------+------------------+------------------+------------------+------------------+------------------+
|1744285817868     |9f62174e-4d3f-4a82-9|1744285817868   |4                 |3                 |14.37             |Awesome Silk Compute|
|                  |2f4-666c2670432e  |                  |                  |                  |                  |r                 |
|1744217297116     |fd450035-5dbb-4df4-a|1744217297116   |2                 |51                |90.61             |Awesome Silk Compute|
|                  |009-f7d770f152fc  |                  |                  |                  |                  |r                 |
|1744123188843     |2804a57c-1d41-4fd4-8|1744123188843   |4                 |74                |56.17             |Awesome Silk Compute|
|                  |768-6e263f1bb3ad  |                  |                  |                  |                  |r                 |
```

3.- Agrupa los clientes. Copia y pega la consulta KSQL ejecutada y el resultado de la ejecución de la consola.

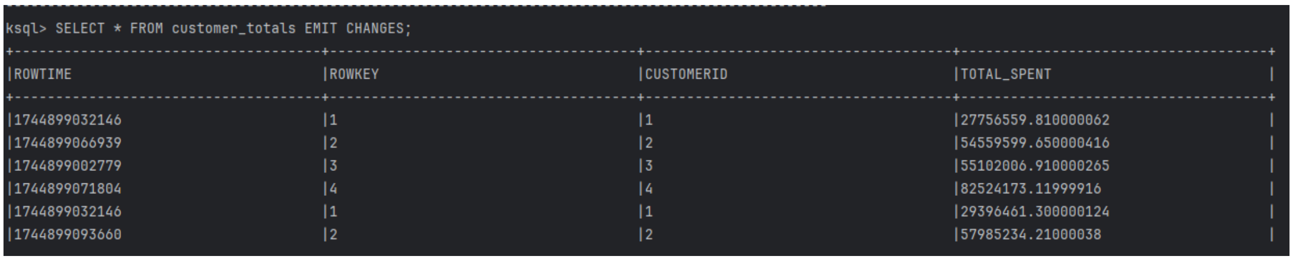


```
ksql> SELECT customerId,
>        count(*)
>  FROM orders_stream
>  GROUP BY customerId
>  EMIT CHANGES;
+----------------------------------------------------------------------+----------------------------------------------------------------------+
|CUSTOMERID                                                            |KSQL_COL_1                                                            |
+----------------------------------------------------------------------+----------------------------------------------------------------------+
|3                                                                     |985                                                                   |
|1                                                                     |428                                                                   |
|2                                                                     |953                                                                   |
|4                                                                     |1538                                                                  |
|1                                                                     |1182                                                                  |
|4                                                                     |3749                                                                  |
|3                                                                     |2493                                                                  |
```

4.- Crea una nueva tabla denominada "customer_totals" que contenga el Identificador del cliente y el total gastado. Copia el código KSQL para crear la tabla. Una vez creada realiza una consulta sobre la misma, copia y pega el código KSQL y el resultado.



```
ksql> CREATE TABLE customer_totals AS
>  SELECT
>    CUSTOMERID,
>    SUM(AMOUNT * PRICE) AS TOTAL_SPENT
>  FROM orders_stream
>  GROUP BY CUSTOMERID;

 Message
-----------------------------------------------------------------------------------------------
 Table CUSTOMER_TOTALS created and running. Created by query with query ID: CTAS_CUSTOMER_TOTALS_2
-----------------------------------------------------------------------------------------------
ksql>
```



```
ksql> SELECT * FROM customer_totals EMIT CHANGES;
+-----------------------------------+-----------------------------------+-----------------------------------+-----------------------------------+
|ROWTIME                            |ROWKEY                             |CUSTOMERID                         |TOTAL_SPENT                        |
+-----------------------------------+-----------------------------------+-----------------------------------+-----------------------------------+
|1744899032146                      |1                                  |1                                  |27756559.810000062                 |
|1744899066939                      |2                                  |2                                  |54559599.650000416                 |
|1744899002779                      |3                                  |3                                  |55102006.910000265                 |
|1744899071804                      |4                                  |4                                  |82524173.11999916                  |
|1744899032146                      |1                                  |1                                  |29396461.300000124                 |
|1744899093660                      |2                                  |2                                  |57985234.21000038                  |
```