

Tableau Introduction-Assignment 2

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1. With the help of the databases of your choice, illustrate the data connection process with a SQL and a NoSQL database server in Tableau. Also, compare the pros and cons of using a SQL database server and a NoSQL database server.

- SQL is the programming language used to interface with Relational Databases. In Relational Database Model, data as records are stored in rows and column-like table structures with logical links between them.
 - Some examples of SQL databases include MySQL, Oracle, PostgreSQL, and Microsoft SQL Server. SQL is a user-friendly language that can be accomplished by simple keywords with little to no coding required.
 - Need to continually increase large space in the hard drive as data grows and faster machines to run the query or processes.
- NoSQL is a class of DBMS that is non-Relational and generally does not use SQL. Data and records are stored in document-based, graph-based file structures.
 - NoSQL database examples include MongoDB, BigTable, Redis, RavenDB, Cassandra, HBase, Neo4j, and CouchDB. NoSQL databases provide affordable options for many organizations.
 - NoSQL queries likely require programming experience. This means more technical and costly staff, like developers or data scientists, will need to perform queries.

2. Connect with the SQL database server of your choice and establish a connection with a dummy database “Employee” containing employee information (employee name, employee id, employee salary, employee department, employee years of experience) in a company. Write an SQL statement using tableau’s custom SQL feature to retrieve the employee id and employee salary in your tableau dashboard.

- I do not have SQL Server, so I have connected with MySQL Workbench with an SQL server, username, and password.

Connections Add

127.0.0.1
MySQL

Database

arti_operations

Table

employinfo
employinfo1
employinfo2
employinfo3
job
job3
New Custom SQL
New Union
New Table Extension

employinfo — Custom SQL Query

employinfo 4 fields 10 rows

Name
employinfo

Fields

| Type | Field Name | Physic... | Rem... |
|------|------------|------------|---------|
| Abc | E Name | employinfo | e_name |
| # | E Age | employinfo | e_age |
| # | E Mobno | employinfo | e_mo... |
| Abc | E Place | employinfo | e_place |

| Abc employinfo | # employinfo | # employinfo | Abc employinfo |
|-------------------|-----------------|-----------------|-------------------|
| E Name | E Age | E Mobno | E Place |
| arti | 26 | 9,861,284,670 | bam |
| rnki | 26 | 9,864,367,882 | bam |
| mamli | 22 | 1,234,567,890 | ctp |
| snli | 19 | 4,321,765,432 | ctp |
| lipsa | 18 | 9,876,543,210 | bam |
| arti | 26 | 9,861,284,670 | bam |
| rnki | 26 | 9,864,367,882 | bam |
| mamli | 22 | 1,234,567,890 | ctp |
| snli | 19 | 4,321,765,432 | ctp |
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Connections Add

127.0.0.1
MySQL

Database

arti_operations

Table

employinfo
employinfo1
employinfo2
employinfo3
job
job3
New Custom SQL
New Union
New Table Extension

employinfo — Custom SQL Query

Custom SQL Query 2 fields 10 rows

Name
Custom SQL Query

Fields

| Type | Field Name | Physic... | Rem... |
|------|---------------------------|------------|-----------|
| Abc | e_name (Custom SQL Query) | Custom ... | e_na... |
| # | e_age (Custom SQL Query) | Custom ... | e_age ... |

| Abc Custom SQL Query | # Custom SQL Query |
|-------------------------|--------------------------|
| e_name (Custom SQL Q... | e_age (Custom SQL Que... |
| arti | 26 |
| rnki | 26 |
| mamli | 22 |
| snli | 19 |
| lipsa | 18 |
| arti | 26 |
| rnki | 26 |
| mamli | 22 |
| snli | 19 |
| lipsa | 18 |

emplyinfo (arti_operations)

Connection: ☒ Live ☐ Extract

Custom SQL Query is made of 1 table. ⓘ

Custom SQL Query

Edit Custom SQL

```
select e_name, e_age from emplyinfo
```

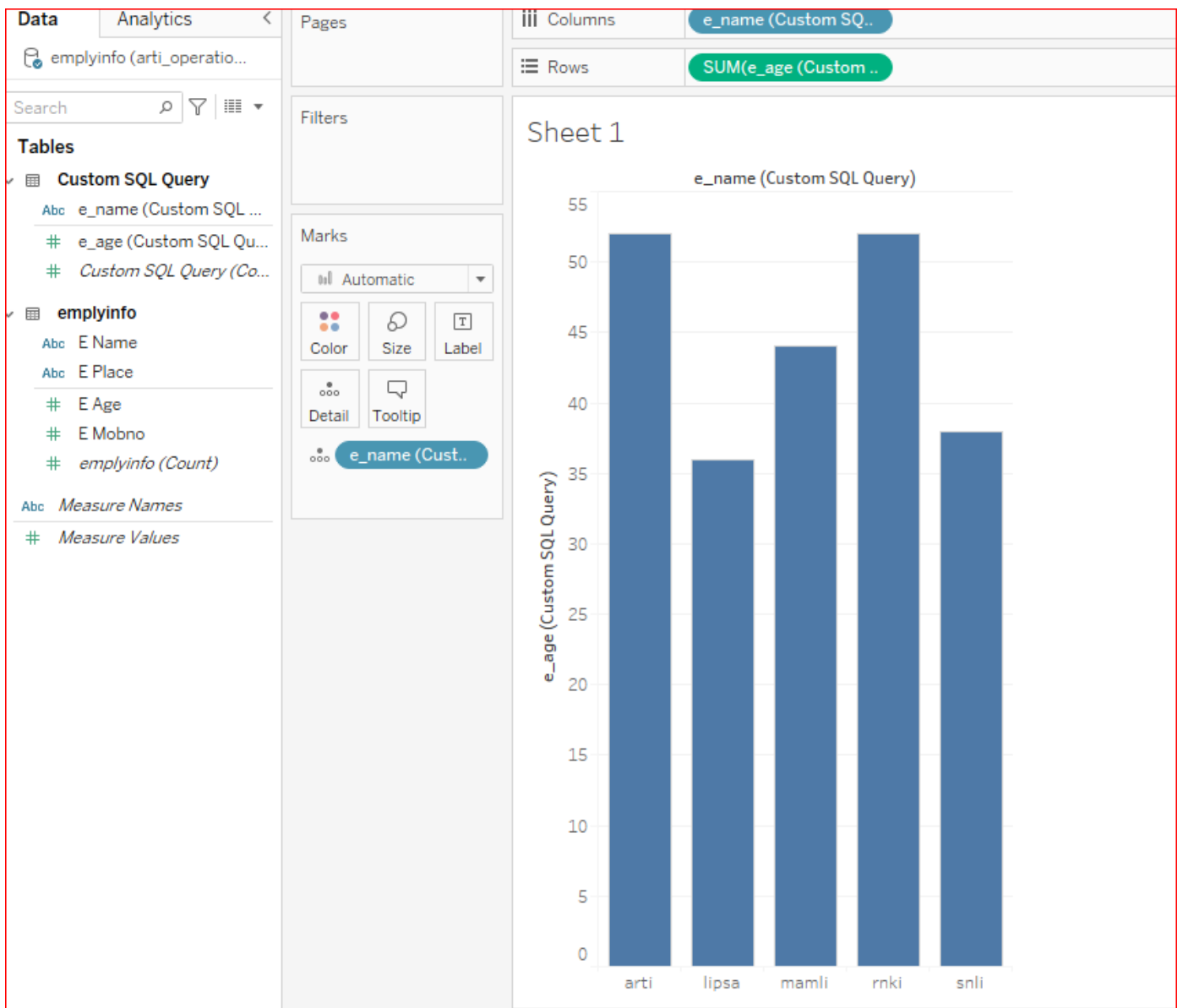
Preview Results... Insert Parameter OK Cancel

| Type | Field Name | Physic... | Rem... |
|------|---------------------------|------------|-----------|
| Abc | e_name (Custom SQL Query) | Custom ... | e_na... |
| # | e_age (Custom SQL Query) | Custom ... | e_age ... |

Name: Custom SQL Query

| Field Name | Value |
|---------------------------|-------|
| e_name (Custom SQL Query) | mamli |
| e_age (Custom SQL Query) | 22 |
| e_name (Custom SQL Query) | snli |
| e_age (Custom SQL Query) | 19 |
| e_name (Custom SQL Query) | lipsa |
| e_age (Custom SQL Query) | 18 |
| e_name (Custom SQL Query) | arti |
| e_age (Custom SQL Query) | 26 |
| e_name (Custom SQL Query) | rnki |
| e_age (Custom SQL Query) | 26 |

Activate Window
Go to Settings to activate



3. Imagine you are tasked with maintaining year-wise data of new students that join a certain college. Create three separate excel tables containing data of students for three consecutive years, one for each year, and store it in a common database. Using the features available on the data source page of Tableau, join these tables with the same headers and create a single table.

- I have created 3 tables 2020,2021,2022 of student details and join them by UNION with same header columns.

Connections

students
Microsoft Excel

Sheets

2020
2021
2022
New Union
New Table Extension

2020

Need more data?

2020 3 fields 5 rows

Name
2020

Fields

| Type | Field Name | Physical Table | Remote Field Name |
|------|------------|----------------|-------------------|
| # | Id | 2020 | id |
| Abc | Name | 2020 | name |
| # | Year | 2020 | year |

| # 2020 | Abc 2020 | # 2020 |
|-----------|-------------|-----------|
| Id | Name | Year |
| 101 | arati | 2020 |
| 102 | rinki | 2020 |
| 103 | mamali | 2020 |
| 104 | sonali | 2020 |
| 105 | lipsa | 2020 |

Connections

students
Microsoft Excel

Sheets

2020
2021
2022
New Union
New Table Extension

2021

Need more data?

2021 3 fields 5 rows

Name
2021

Fields

| Type | Field Name | Physical Table | Remote Field Name |
|------|------------|----------------|-------------------|
| # | Id | 2021 | id |
| Abc | Name | 2021 | name |
| # | Year | 2021 | year |

| # 2021 | Abc 2021 | # 2021 |
|-----------|-------------|-----------|
| Id | Name | Year |
| 201 | arati 1 | 2021 |
| 202 | rinki 1 | 2021 |
| 203 | mamali 1 | 2021 |
| 204 | sonali 1 | 2021 |
| 205 | lipsa 1 | 2021 |

Connections Add

students
Microsoft Excel

Sheets ρ

2020

2021

2022

New Union

New Table Extension

2022

2022 3 fields 5 rows

Name
2022


Fields


| Type | Field Name | Physical Table | Remote Field Name |
|------|------------|----------------|-------------------|
| # | Id | 2022 | id |
| Abc | Name | 2022 | name |
| # | Year | 2022 | year |

| # | Abc | # |
|------|----------|------|
| 2022 | 2022 | 2022 |
| Id | Name | Year |
| 301 | arati 2 | 2022 |
| 302 | rinki 2 | 2022 |
| 303 | mamali 2 | 2022 |
| 304 | sonali 2 | 2022 |
| 305 | lipsa 2 | 2022 |

students

Union ×

 Specific (manual)

 Wildcard (automatic)

Connection: students

2020

2021

2022

Tables in union: 3

Apply OK

Connections

students

Microsoft Excel

Sheets

2020

2021

2022

New Union

New Table Extension

Union

5 fields 15 rows

Name

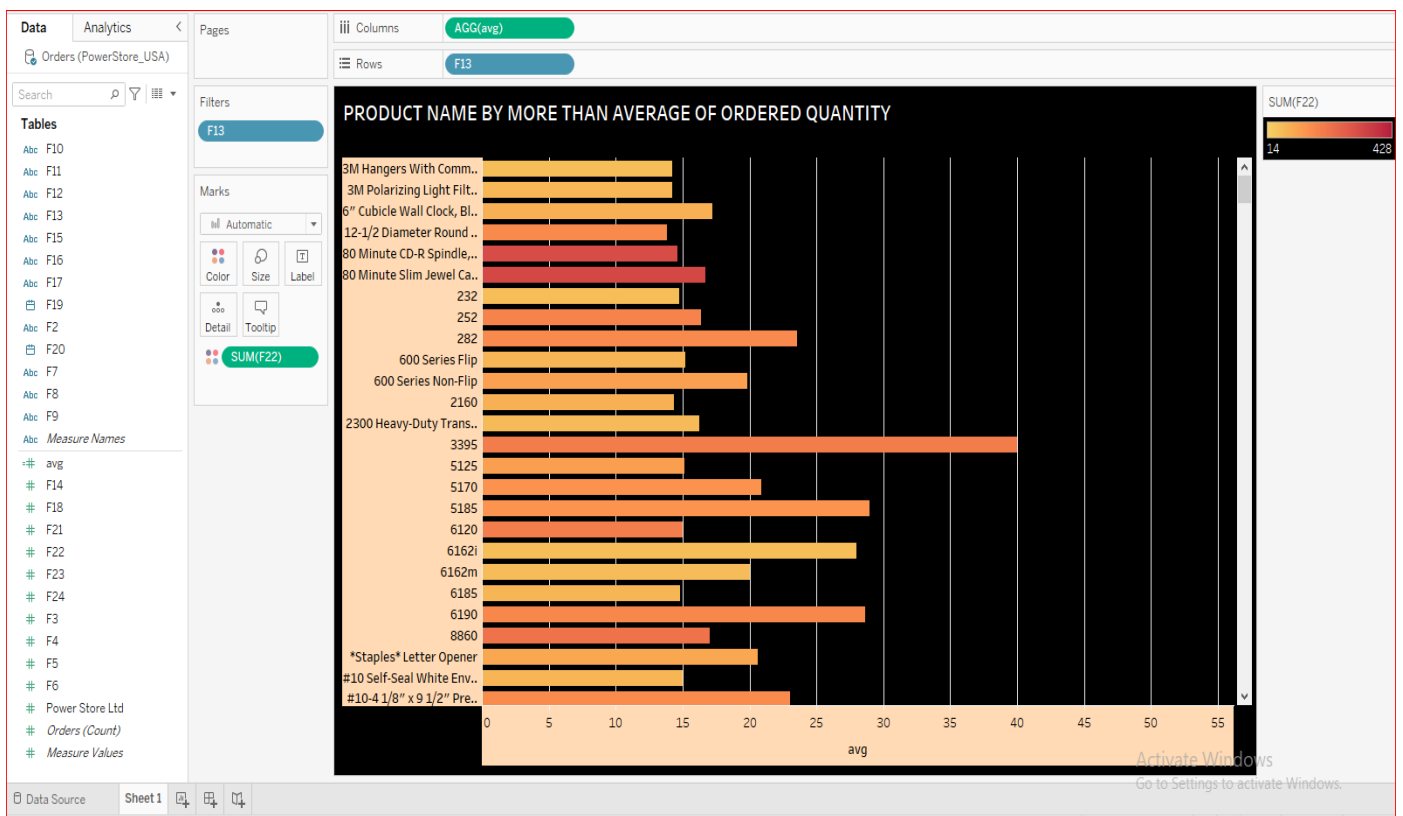
Union

Fields

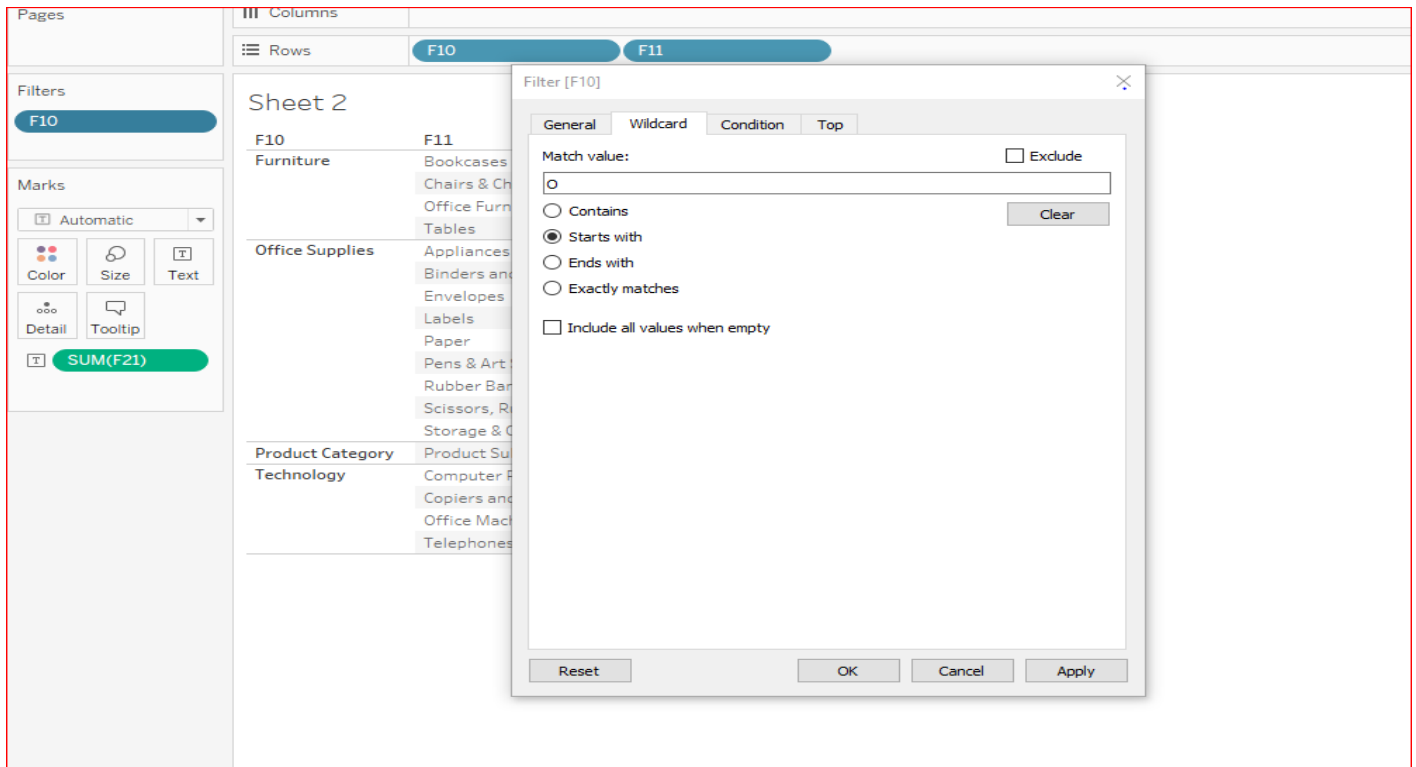
| Type | Field Name | Physical Table | Remote Field Na... |
|------|------------|----------------|--------------------|
| # | id | Union | id |
| Abc | name | Union | name |
| # | year | Union | year |
| Abc | Sheet | Union | Sheet |
| Abc | Table Name | Union | Table Name |

| # | Abc | # | Abc | Abc |
|-------|----------|-------|-------|------------|
| Union | Union | Union | Union | Union |
| id | name | year | Sheet | Table Name |
| 101 | arati | 2,020 | 2020 | 2020 |
| 102 | rinki | 2,020 | 2020 | 2020 |
| 103 | mamali | 2,020 | 2020 | 2020 |
| 104 | sonali | 2,020 | 2020 | 2020 |
| 105 | lipsa | 2,020 | 2020 | 2020 |
| 201 | arati 1 | 2,021 | 2021 | 2021 |
| 202 | rinki 1 | 2,021 | 2021 | 2021 |
| 203 | mamali 1 | 2,021 | 2021 | 2021 |
| 204 | sonali 1 | 2,021 | 2021 | 2021 |
| 205 | lipsa 1 | 2,021 | 2021 | 2021 |
| 301 | arati 2 | 2,022 | 2022 | 2022 |
| 302 | rinki 2 | 2,022 | 2022 | 2022 |
| 303 | mamali 2 | 2,022 | 2022 | 2022 |
| 304 | sonali 2 | 2,022 | 2022 | 2022 |
| 305 | lipsa 2 | 2,022 | 2022 | 2022 |

4. Using the “PowerStore_USA” dataset, filter and display those products which satisfy the condition wherein the number of the quantity ordered is more than the total average quantity ordered.



5. With respect to the “PowerStore_USA” dataset, apply a filter to your data such that only those values where the “Product-Category” starts with the letter “O” get displayed.



The screenshot shows the Power BI Desktop interface. In the Filter pane on the left, 'F10' is selected. A 'Filter [F10]' dialog box is open, showing the 'General' tab. The 'Match value' field contains 'O'. The 'Starts with' condition is selected. The 'Include all values when empty' checkbox is unchecked. The 'OK' button is highlighted.

