

ExNo: 01
DATE: 02/07/24

WORKING WITH DATATYPES AND DATA CONNECTORS

AIM:-

To write a data visualization program that working with datatype and data connectors.

PROCEDURE:-

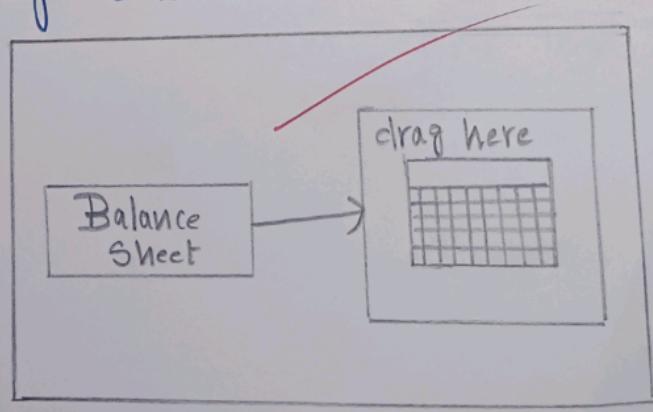
Step1: Open tableau, Newsheet will be opened.

In the Newsheet, click file - "New" data source page will be open.

Step2: In the Newsheet, click "Connect to data" and get the select MS excel Open tab will be displayed from the Open tab.

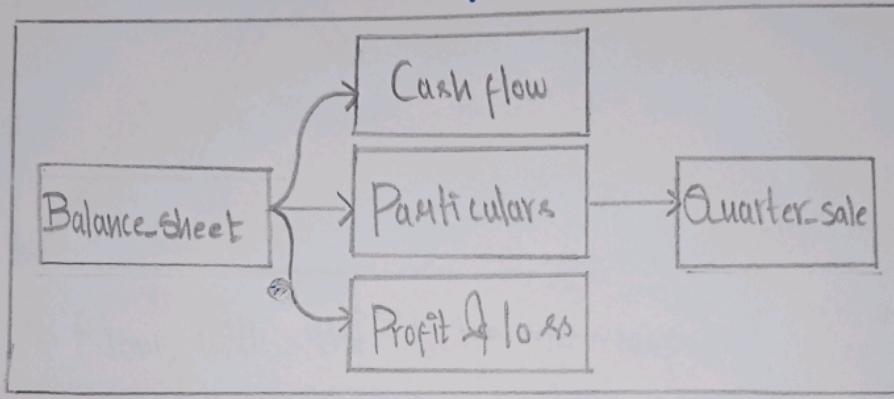
Step3: From the open tab select, TI India dataset and Click open button. dataset along with table will be displayed in the sidebar.

Step4: Drag balanced - Sheet table.



Step 5: To form a ER-diagram connect the Cash flow table, Particular table and profit & loss table.

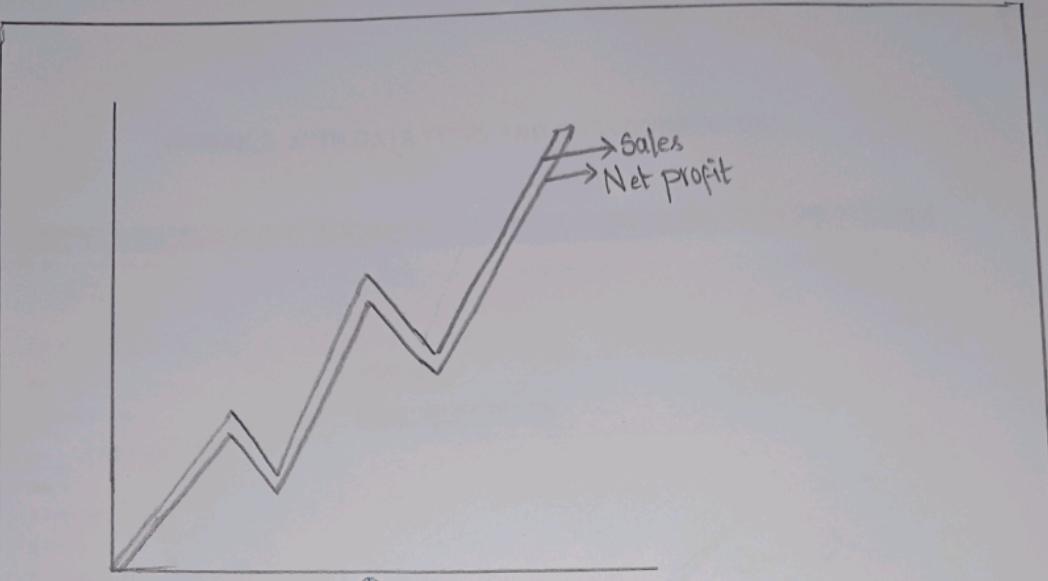
Step 5.1: In particular Entity connect the Quarter-sale.



Step 6: To form a relationship between particular and Quarter-sale. alter the datatype Option into report data.

Step 7: Go to worksheet, drag the year to Column and drag the sales and Net profit from the profit & loss table to rows.

Step 8: Go to show me tab and select the dual-line diagram. Now we will be displayed ~~Output~~.



Step 9: Now, with the help of output.
we can create an analysis report.

III - Year

To 15

Day 6

Day 1

Day 4

Day 1

Day 4

Day 6

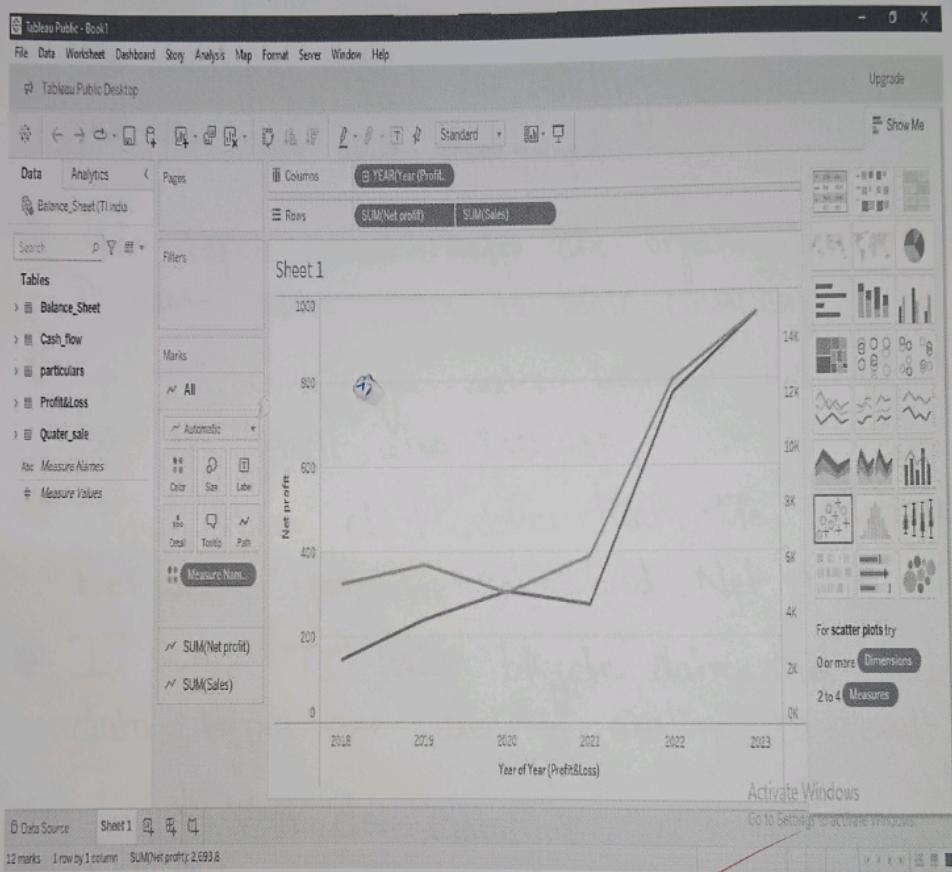
Day 1

Day 4



(3)

WORKING WITH DATA TYPES AND DATA CONNECTORS



III - Xe
to 15
Day 6
ay 1
ay 4
ay 1
ay 4
ay 6
ay 1
ay 4

(14)

ANALYSIS REPORT:

- * Using TI India's Bicycle Company's dataset, the analysis report for finding Correlation between Year vs Sales and Net profit.
- * This report must help the organization to increase more sales to their company
- * If the company's sales increase automatically the net profit also increase
- * The above chart shows that the relationship between year vs sales and Net profit.
- * In the TI India bicycle data, the following data types are used to analyse to result.
 - * Year - date datatype
 - * Sales - Numeric datatype
 - * Netprofit - Numeric datatype.
- * The above chart indicates the growth of bicycle in past 6 years - using the dual-line diagram.

- * The chart shows that the past 6 years are 2018, 2019, 2020, 2021, 2022 and 2023. The company has below average of profit in 2018 to 2020.
- * The analysis report tells that the 2 years 2019 and 2020 was pandemic time. so, that company didn't get profit.
- * The regular patron (Customer) and visitor of Company are school students, sports person and cyclist etc....
- * For after the pandemic, The regular Patrons are not initiative in bicycle because, Awareness of Pandemic.
- * For the 1st 3 years data tell these information.
- * The end of pandemic time 2021 to 2023 data shows that ~~these~~ 3 years have more sales and Net profit.
- * The sales was double over the 3 year (2018, 2019 & 2020)

III - Year

1 to 15
 > Day 6
 Day 1
 > Day 4
 > Day 1
 Day 4
 > Day 6
 Day 1
 > Day 4

- * In 2021 & 2022 they introduced new cycle feature. The feature is known as "Bicycle Computer & Speedometer waterproof".
 - * This feature has 3 specific options they are "Speed of ride, temperature and clock".
 - * It place in bicycle handle, so the users can motivate by themselves and use the cycle regularly.
 - * This featured bicycle launched in 2021-2022 this time. the company's profit was double the amount.
 - * This bicycle was used by many school student, cyclist, sports person etc..
 - * This analysis report concludes that the new featured bicycle has more craze and it makes company sales and profit increased to double.

Result:

④ Thus, The data visualization program that works with data type and data connectors is executed successfully.

Ex:- No :- 02

DATE :- 09/07/24

WORKING WITH TABLES :- JOINS AND UNIONs

AIM :-

To write a data visualization program that works with Tables using Joins and Unions.

PROCEDURE :-

Step1: Open tableau, new sheet will be opened.
In the new sheet click file - "New". Data source page will be open.

Step2: In the new sheet, click "Connect to data" and get the select MS excel. Open tab will be displayed from Open tab select Customer dataset.

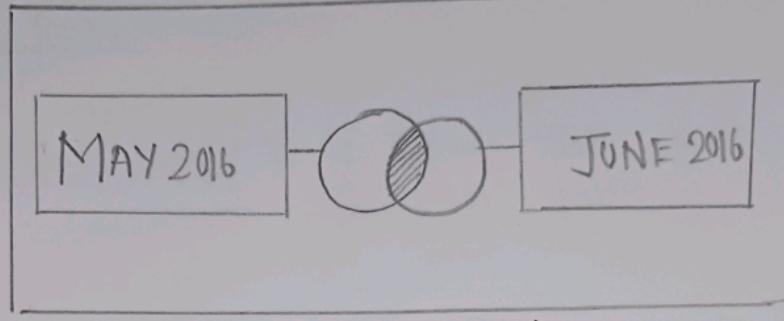
Step3: Data source page will be open.

JOINS :-

Step 4: To create a Join Operation, drag the May month table. Double click the May month table.

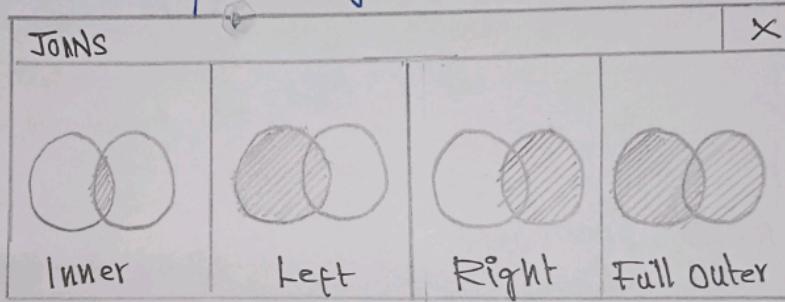
Step5: Physical May month table will open. Drag the June month table under the May month table. The join operation is formed.

Step6: The join icon will appear between May and June month.



JOIN OPERATION

Step:- Click the join icon. The list of join operation will be open. We can select the required join.



Steps:-

INNER JOIN:-

To form a inner join, select the inner join icon that combines table, the result is a table that have matches in both tables.

Step 9:-

LEFT JOIN:-

Select the left join icon to combine tables, that the result is a table that contains all corresponding matches from the right table.

RIGHT JOIN:-

Step10:- Select the right join icon to combine tables, the result is a table that contains all values from the right table & corresponding matches from the left table.

Step11:-

FULL OUTER JOIN:- Select the full outer icon to combine tables, the result is a table that contains all values from both tables. The value from either table doesn't have a match with the other table that will be displayed as null values.

UNION:-

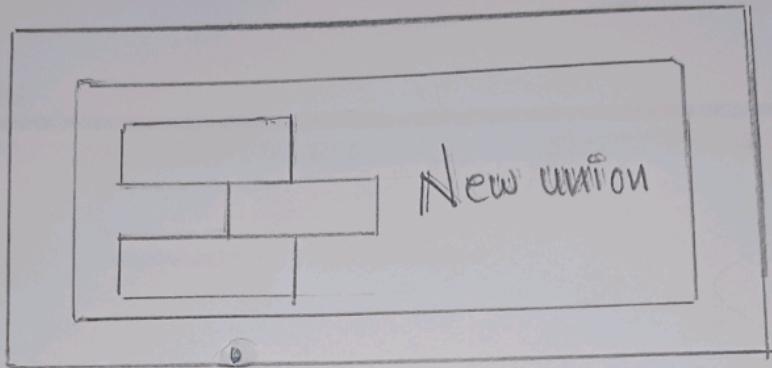
Step12:- To create a union operation, open tableau, newsheet will be opened.

Step13:- In the Newsheet Click file "New" data source page will be open. go to the newsheet Click "Connect to data". and get the select Ms excel open table will be displayed from the Open tab.

Step14:- From the open tab select, customer dataset & click open button . dataset along with table will be displayed in the side bar.

Step 15: In the side bar click "New union"
and drag the May 2016 & June 2016 table

Step 16: Then May 2016 & June 2016 table will
be Unjoined.



WORKING WITH TABLES JOINS AND UNIONS

INNER JOIN:

The screenshot shows the Tableau Public interface with two data sources: 'MAY 2016' and 'JUNE 2016'. A join line connects them with a circle icon. The 'MAY 2016' table has columns: Date, Name, Purchase, and Payment Type. The 'JUNE 2016' table has columns: Date (June 2016), Name (June 2016), Purchase (June 2016), and Payment Type (June 2016). The joined data shows three rows where all four columns have values.

Date	Name	Purchase	Payment Type	Date (June 2016)	Name (June 2016)	Purchase (June 2016)	Payment Type (June 2016)
3	LANE	4	CASH		3	LANE	4
5	CHRIS	5	CREDIT		5	CHRIS	5
7	JUAN	6	CASH		7	JUAN	6

LEFT JOIN:

The screenshot shows the Tableau Public interface with two data sources: 'MAY 2016' and 'JUNE 2016'. A join line connects them with a circle icon. The 'MAY 2016' table has columns: Date, Name, Purchase, and Payment Type. The 'JUNE 2016' table has columns: Date (June 2016), Name (June 2016), Purchase (June 2016), and Payment Type (June 2016). The joined data shows three rows where all four columns have values. There are four additional rows from the 'JUNE 2016' table where the 'Date' column is null, resulting in null values for the other three columns.

Date	Name	Purchase	Payment Type	Date (June 2016)	Name (June 2016)	Purchase (June 2016)	Payment Type (June 2016)
3	LANE	4	CASH		3	LANE	4
5	CHRIS	5	CREDIT		5	CHRIS	5
7	JUAN	6	CASH		7	JUAN	6
10	HARRY	1	CREDIT	null	null	null	null
9	HENRY	8	CREDIT	null	null	null	null
17	KIM	9	CASH	null	null	null	null
15	PETER	3	CREDIT	null	null	null	null

RIGHT JOIN:

The screenshot shows the Tableau Public interface with two data sources: 'MAY 2016' and 'JUNE 2016'. A right join is performed on the 'Customer' dimension. The resulting view displays 10 rows of data.

Date	Name	Purchase	Payment Type	Date (June 2016)	Name (June 2016)	Purchase (June 2016)	Payment Type (June 2016)
3	LANE	4	CASH	3	LANE		4 CASH
5	CHRIS	5	CREDIT	5	CHRIS		5 CREDIT
7	JUAN	6	CASH	7	JUAN		6 CASH
null	null	null	null	9	MARY		3 CREDIT
null	null	null	null	11	ROSE		1 CREDIT
null	null	null	null	14	JAX		2 CREDIT
null	null	null	null	22	LUNA		7 CREDIT
null	null	null	null	25	KALIX		8 CASH
null	null	null	null	26	ALPH		11 CREDIT

FULL OUTER JOIN:

The screenshot shows the Tableau Public interface with two data sources: 'MAY 2016' and 'JUNE 2016'. A full outer join is performed on the 'Customer' dimension. The resulting view displays 14 rows of data, including null values for unmatched records.

Date	Name	Purchase	Payment Type	Date (June 2016)	Name (June 2016)	Purchase (June 2016)	Payment Type (June 2016)
3	LANE	4	CASH	3	LANE		4 CASH
5	CHRIS	5	CREDIT	5	CHRIS		5 CREDIT
7	JUAN	6	CASH	7	JUAN		6 CASH
null	null	null	null	9	MARY		3 CREDIT
null	null	null	null	11	ROSE		1 CREDIT
null	null	null	null	14	JAX		2 CREDIT
null	null	null	null	22	LUNA		7 CREDIT
null	null	null	null	25	KALIX		8 CASH
null	null	null	null	26	ALPH		11 CREDIT

UNION:

The screenshot shows a Tableau Public desktop application window. The title bar reads "Tableau Public - Book2". The main area displays a data source named "MAY 2016+ (Customer)" which is a UNION of two tables: "JUNE 2015" and "MAY 2016". The data is presented in a table titled "Union" with 6 fields and 17 rows. The columns are labeled: DATE, NAME, PURCHASE, PAYMENT TYPE, Sheet, and Table Name. The data shows various purchases made by customers like LANE, CHRIS, JUAN, MARY, ROSE, JAX, LUNA, KALIX, ALPH, and DITTO. A red circle highlights the number 14 at the bottom center of the page.

DATE	NAME	PURCHASE	PAYMENT TYPE	Sheet	Table Name
3	LANE	4	CASH	JUNE 2016	JUNE 2016
5	CHRIS	5	CREDIT	JUNE 2016	JUNE 2016
7	JUAN	6	CASH	JUNE 2016	JUNE 2016
9	MARY	3	CREDIT	JUNE 2016	JUNE 2016
11	ROSE	1	CREDIT	JUNE 2016	JUNE 2016
14	JAX	2	CREDIT	JUNE 2016	JUNE 2016
22	LUNA	7	CREDIT	JUNE 2016	JUNE 2016
25	KALIX	8	CASH	JUNE 2016	JUNE 2016
26	ALPH	11	CREDIT	JUNE 2016	JUNE 2016
27	DITTO	7	CREDIT	JUNE 2016	JUNE 2016

Analysis Report:-

- * Using Customer dataset of super dress store. The analysis report for finding joins and Union.
- * This report will help super dress store to increase the sales and profit and identify the most sold Product (or) most frequently purchased Customer.
- * The customer dataset of May and June month. It consists of fields name such as day, customer-name, purchase, payment-type

Join Operation Performance:-

- * It is often necessary to combine data from multiple places - different tables or even data sources - to perform a desired analysis.

INNER JOIN OPERATION: When we use an inner join to combine tables, the result is a table that contains values that have matches in both tables. When a value doesn't match across both tables, it is dropped entirely.

- * The analysis report tells that the May month customer 3 of them visited again the store in June month.

* LEFT JOIN OPERATION: The left join operation that combines two tables, the result table that contains all values from the left table and corresponding matches from the right table, displaying the null value in the data grid.

* The report tells that the may month customers are 7 members. In that 7 members 3 of them were visited the super dress store again in june month.

* RIGHT JOIN OPERATIONS: It contains all values from the right table and corresponding matches from the left table. The value in the right table doesn't have a corresponding match in the left table. It displays a null value in the data grid.

* The report tells that the june month customers are 10 members. The may month customers 3 of them were visited the super dress store again in this month.

* FULL OUTER JOIN OPERATION: It contains all values from both tables. The values that don't match are displayed as null value in the data grid.

* The report tells that may and june month customers are 17 members. In that 17 members 3 of the customers were visited the super dress store in both the months.

* UNION OPERATION PERFORMANCE!

* The union operation that combines two or more tables by appending values (rows) from one table to another.

* The report tells that the total number of customers in both May and June month. There are 17 members of customer visited the super store in May and June month. In that 17 members 3 of the customers were visited the super dress store in both the month.

RESULT:-

Thus, the data visualization program that working with tables using joins, unions and data extracts is executed successfully.