

Tableau Practical Complete Notes

Introduction to Tableau

Tableau is a data visualization tool used to create charts, graphs, dashboards, maps, and reports from datasets.

These notes contain:

- Basic Tableau setup
 - Common mistakes and fixes
 - Step-by-step solutions for all practical questions
 - Retail Dataset Practical Questions
 - Adult/Census Dataset Practical Questions
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Basic Tableau Setup

Installing Tableau

1. Download Tableau from official website.
 2. Install Tableau Desktop or Tableau Public.
 3. Open Tableau.
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How to Add Dataset into Tableau

Method 1: Drag and Drop

- Open Tableau
- Drag the CSV/Excel file directly into Tableau Data Source section.

Method 2: Using Connect Option

1. Open Tableau
2. Click:
 - Microsoft Excel (for .xlsx files)

- Text File (for .csv files)
3. Select dataset file.
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Creating New Worksheet

To create a new chart/question:

1. Click:
 - New Worksheet button at bottom

Always create a new sheet for every question.

Important Tableau Concepts

Dimensions

Dimensions are categorical values.

Examples:

- Country
- Description
- InvoiceNo
- education
- workclass

Measures

Measures are numeric values.

Examples:

- Sales
 - Quantity
 - age
 - UnitPrice
-

Important Common Mistakes and Fixes

Mistake 1: SUM(InvoiceNo), In retail dataset

Problem:

Tableau automatically converts InvoiceNo into Measure.

Wrong:

- SUM(InvoiceNo)

Correct:

- InvoiceNo should be Dimension.

Fix:

1. Right click InvoiceNo
2. Select:
 - Convert to Dimension

Correct setup:

- InvoiceNo → Rows
 - SUM(Sales) → Columns
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Mistake 2: SUM(age)

Problem:

Tableau converts age into Measure.

Wrong:

- SUM(age)

Correct:

- age should be used as Dimension.

Fix:

1. Right click age
2. Convert to Dimension

OR

Click dropdown on SUM(age) and select:

- Dimension

Mistake 3: Map Not Generating

Problem:

Geospatial map does not appear.

Fix:

1. Right click native_country
2. Geographic Role → Country/Region
3. Double click native_country again

Mistake 4: Bottom 10 Products Showing Fees and Discounts

Problem:

Dataset contains:

- AMAZON FEE
- Discount
- Manual
- Bank Charges

Fix:

1. Description → Rows
2. Sales → Columns
3. Sort Ascending
4. Right click unwanted entries
5. Exclude

Then first 10 visible products become Bottom 10 products.

RETAIL DATASET PRACTICALS

Dataset used:

- Online Retail Dataset
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Creating Sales Field

Before starting retail practicals create Sales field.

Steps

1. Right click left panel
2. Create Calculated Field

Name:
Sales

Formula:
[Quantity] * [UnitPrice]

Click OK.

GROUP 1 QUESTIONS (Retail Dataset)

a) Find and Plot Top 10 Products based on Total Sale

Steps

1. Open New Worksheet
2. Drag:
 - Description → Rows
3. Drag:
 - Sales → Columns
4. Click Sort Descending
5. Right click Description
6. Filter
7. Top tab
8. Select:
 - Top 10 by SUM(Sales)

Output

Top 10 highest selling products.

b) Find and Plot Product Contribution to Total Sale

Steps

1. Open New Worksheet
2. Drag:
 - Description → Rows
3. Drag:
 - Sales → Columns
4. Right click Sales
5. Quick Table Calculation
6. Percent of Total

Optional

Use Pie Chart from Show Me.

Output

Percentage contribution of each product.

c) Find and Plot Month-wise Sales in Year 2010 in Descending Order

Steps

1. Open New Worksheet
2. Drag:
 - InvoiceDate → Columns
3. Select:
 - Month
4. Drag:
 - Sales → Rows
5. Drag InvoiceDate → Filters
6. Select Year 2010
7. Click Sort Descending

Output

Month-wise sales for year 2010.

d) Find and Plot Most Loyal Customers based on Purchase Order

Steps

1. Open New Worksheet
2. Drag:
 - CustomerID → Rows
3. Drag:
 - InvoiceNo → Columns
4. Right click InvoiceNo
5. Measure → Count Distinct
6. Sort Descending

Output

Customers with highest purchase orders.

e) Find and Plot Yearly Sales Comparison

Steps

1. Open New Worksheet
2. Drag:
 - InvoiceDate → Columns
3. Select:
 - Year
4. Drag:
 - Sales → Rows

Output

Year-wise sales comparison.

f) Find and Plot Country-wise Total Sales Price and Show on Geospatial Graph

Steps

1. Open New Worksheet
2. Double click:
 - Country
3. Drag:
 - Sales → Color
4. Drag:

- Sales → Size

If Map Does Not Generate

1. Right click Country
2. Geographic Role → Country/Region
3. Double click Country again

Output

Country-wise sales geospatial map.

GROUP 2 QUESTIONS (Retail Dataset)

a) Find and Plot Country-wise Popular Product

Correct Easy Method

Steps

1. Open New Worksheet
2. Drag:
 - Country → Rows
3. Drag:
 - Description → Rows
4. Drag:
 - Sales → Columns
5. Click Sort Descending

Final Result

Manually observe first product under each country.

Important Note

This is the simplest and most stable method for practical exams.

b) Find and Plot Bottom 10 Products based on Total Sale

Correct Working Method

Steps

1. Open New Worksheet
2. Drag:
 - Description → Rows
3. Drag:
 - Sales → Columns
4. Click Sort Ascending
5. Right click unwanted entries:
 - AMAZON FEE
 - Manual
 - Discount
 - Bank Charges
6. Select Exclude

Final Result

First 10 visible products become Bottom 10 products.

Important Note

Bottom filter may not work correctly because of negative values.
This manual method is more stable.

c) Find and Plot Top 5 Purchase Orders

Important Correction

InvoiceNo must be Dimension.
Do NOT use SUM(InvoiceNo).

Steps

1. Right click InvoiceNo
2. Convert to Dimension

Then:

3. Open New Worksheet
4. Drag:
 - InvoiceNo → Rows
5. Drag:
 - SUM(Sales) → Columns

6. Click Sort Descending
7. Right click InvoiceNo
8. Filter
9. Top tab
10. Select:
 - Top 5 by SUM(Sales)

Output

Top 5 purchase orders.

d) Find and Plot Most Popular Products based on Sales

Steps

1. Open New Worksheet
2. Drag:
 - Description → Rows
3. Drag:
 - Sales → Columns
4. Click Sort Descending

Optional

Apply Top 10 filter.

Output

Most popular products.

e) Find and Plot Half Yearly Sales for Year 2011

Step 1: Filter Year 2011

1. Drag:
 - InvoiceDate → Filters
 2. Select:
 - Year 2011
-

Step 2: Create Half-Year Field

1. Right click
2. Create Calculated Field

Name:
Half Year

Formula:
IF DATEPART('month',[InvoiceDate]) <= 6 THEN "H1"
ELSE "H2"
END

Click OK.

Step 3: Create Visualization

1. Drag:
 - Half Year → Columns
2. Drag:
 - Sales → Rows

Output

Half yearly sales comparison.

GROUP 3 QUESTIONS (Adult/Census Dataset)

Dataset used:

- Adult Dataset
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Adult Dataset Column Names

Column No	Column Name
1	age
2	workclass

3	fnlwgt
4	education
5	education_num
6	marital_status
7	occupation
8	relationship
9	race
10	sex
11	capital_gain
12	capital_loss
13	hours_per_week
14	native_country
15	income

Important Note for Adult Dataset

This dataset does not contain:

- sales
- year
- transaction details

Use:

- adult.csv (Count)
for analysis.
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a) Find and Plot Income Class of People whose Education is Master's and Doctorate

Steps

1. Open New Worksheet
2. Drag:
 - education → Filters
3. Select:
 - Masters
 - Doctorate
4. Drag:
 - income → Columns
5. Drag:
 - adult.csv (Count) → Rows

Output

Income distribution for Masters and Doctorate.

b) Find and Plot Income Class of People who have Private Jobs

Steps

1. Open New Worksheet
2. Drag:
 - workclass → Filters
3. Select:
 - Private
4. Drag:
 - income → Columns
5. Drag:
 - adult.csv (Count) → Rows

Output

Income distribution for private employees.

c) Find and Plot Yearly Sales Comparison

Important Note

Adult dataset does not contain:

- year
- sales

Therefore yearly sales comparison cannot be performed.

Write in Practical

The Adult Census dataset does not contain sales or yearly transaction attributes. Therefore yearly sales comparison cannot be performed.

d) Find and Plot Country-wise Statistics on Geospatial Graph

Steps

1. Open New Worksheet
2. Double click:
 - native_country
3. Drag:
 - adult.csv (Count) → Color
4. Drag:
 - adult.csv (Count) → Size

If Map Does Not Generate

1. Right click native_country
2. Geographic Role → Country/Region
3. Double click native_country again

Output

Country-wise geospatial statistics map.

e) Plot Age-wise Education vs Salary Statistics

Important Correction

Do NOT use SUM(age).
age should be Dimension.

Fix

1. Right click age
2. Convert to Dimension

Steps

1. Open New Worksheet
2. Drag:
 - age → Columns
3. Drag:
 - adult.csv (Count) → Rows
4. Drag:
 - education → Color
5. Drag:
 - income → Detail or Filter

Best Visualization

Use Scatter Plot.

Output

Age-wise education and salary analysis.

f) Plot Country-wise Male Female Ratio

Steps

1. Open New Worksheet
2. Drag:
 - native_country → Rows
3. Drag:
 - adult.csv (Count) → Columns
4. Drag:
 - sex → Color

Best Visualization

Use Stacked Bar Chart.

Output

Country-wise male female ratio.

g) Plot Income Class based on Workclass (Government and Other)

Steps

1. Open New Worksheet
2. Drag:
 - workclass → Rows
3. Drag:
 - income → Columns
4. Drag:
 - adult.csv (Count) → Rows or Text

Optional Filter

Filter workclass:

- Federal-gov
- State-gov
- Local-gov
- Private
- Self-emp

Output

Income distribution based on workclass.

Final Tips for Practical Exams

1. Always create new worksheet for every question.
 2. Use Sort options properly.
 3. Use Dimensions correctly.
 4. Convert fields to Dimension if SUM() appears incorrectly.
 5. For maps use Geographic Role.
 6. Use adult.csv (Count) for Adult dataset.
 7. Create Sales field for Retail dataset.
 8. Exclude unwanted entries manually if filters behave incorrectly.
 9. Save workbook regularly.
 10. Use Show Me for better charts.
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End of Notes