Project Title

"Comprehensive Analysis and Dietary Strategies with Tableau: A College Food Choices Case Study"

Team ID : LTVIP2025TMID50199

Team Members:

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- SANKU PAVANI
- TANUKULA PREMARAJU
- VAMSI KRISHNA

1. INTRODUCTION

1.1 Project Overview

This project focuses on transforming dietary data into actionable insights using Tableau. The study targets college students' dietary habits, aiming to improve health outcomes and academic performance through interactive visualizations and predictive analytics.

1.2 Purpose

To develop an intuitive, data-driven platform that analyzes dietary patterns, nutritional intake, and health factors, enabling educational institutions to promote healthier lifestyles and informed decision-making.

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2. IDEATION PHASE

2.1 Problem Statement

Students often lack awareness of their dietary habits, leading to nutritional deficiencies and health issues. This project addresses the need for real-time, visual dietary analysis.

2.2 Empathy Map Canvas

- **Says:** "I want to eat healthier but don't know where to start."
- **Thinks:** "My diet impacts my energy and academics."
- **Does:** Eats based on convenience, skips meals.
- **Feels:** Stressed, sometimes motivated to change.

2.3 Brainstorming

- Track food consumption patterns.
- Visualize data for better understanding.
- Identify health risk indicators.
- Implement predictive alerts and personalized feedback.

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3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

Awareness → Data Collection → Visual Insights → Informed Choices → Improved Health

3.2 Solution Requirements

Functional: - Collect dietary and health data. - Interactive Tableau dashboards. - Real-time alerts and analytics.

Non-functional: - User-friendly interface. - Data security. - Scalability.

3.3 Data Flow Diagram

Data Sources → Data Preparation → Tableau Visualizations → Web Interface → User Insights

3.4 Technology Stack

- Tableau (Visualization)
- Python & Flask (Web Integration)
- Dataset: College food choices survey

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4. PROJECT DESIGN

4.1 Problem Solution Fit

Provides a visual, interactive platform for dietary analysis, addressing awareness gaps and supporting interventions.

4.2 Proposed Solution

An integrated Tableau dashboard system providing real-time insights, trend analysis, and personalized recommendations.

4.3 Solution Architecture

Data Collection → Cleaning → Tableau Dashboards → Flask Web Embedding → End-user Access

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5. PROJECT PLANNING & SCHEDULING

5.1 Project Flow

- Data Collection & Extraction
- Data Preparation

- Visualization Development
- Dashboard Design
- Story Creation
- Performance Testing
- Web Integration
- Project Demonstration & Documentation

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6. FUNCTIONAL AND PERFORMANCE TESTING

6.1 Performance Testing

- Efficient data loading verified.
- Filter functionality tested.
- Calculation fields optimized.
- Visualizations rendered without delays.

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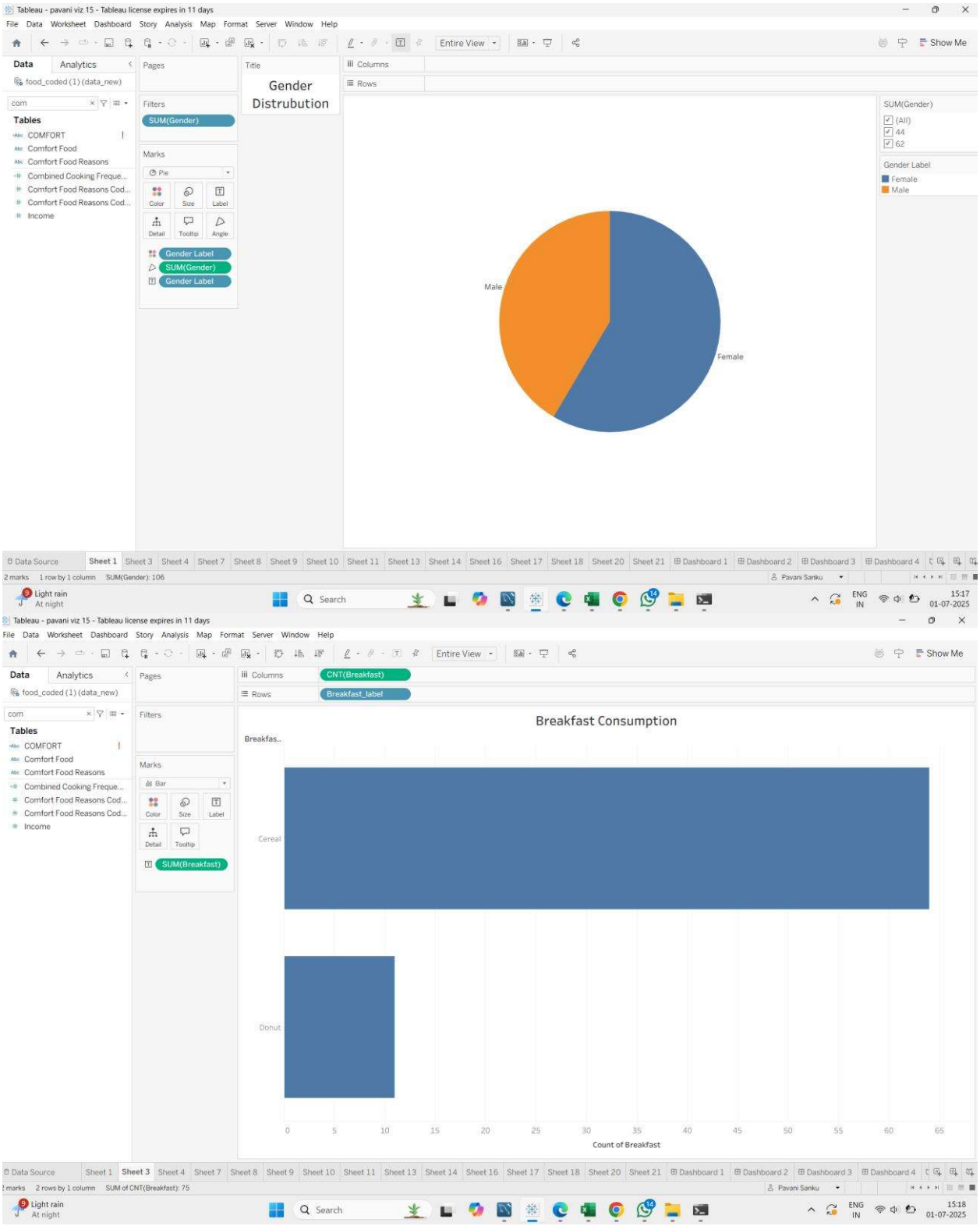
7. RESULTS

7.1 Output Screenshots



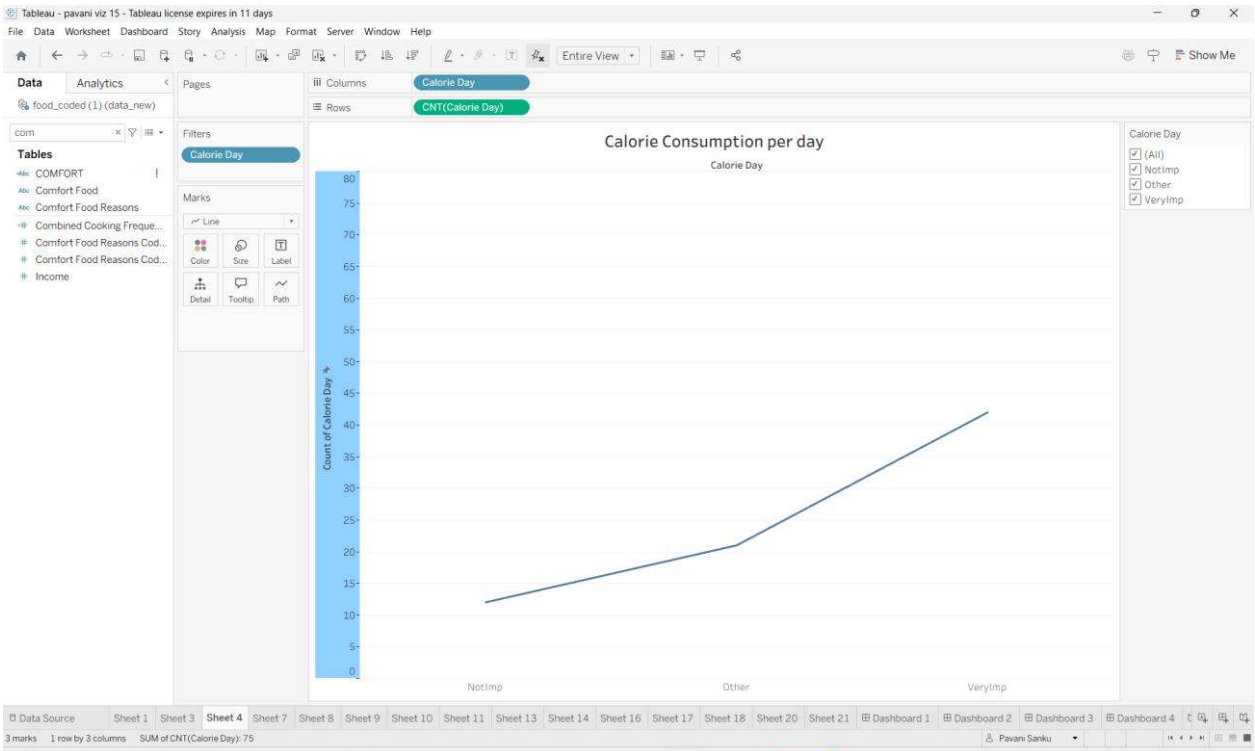
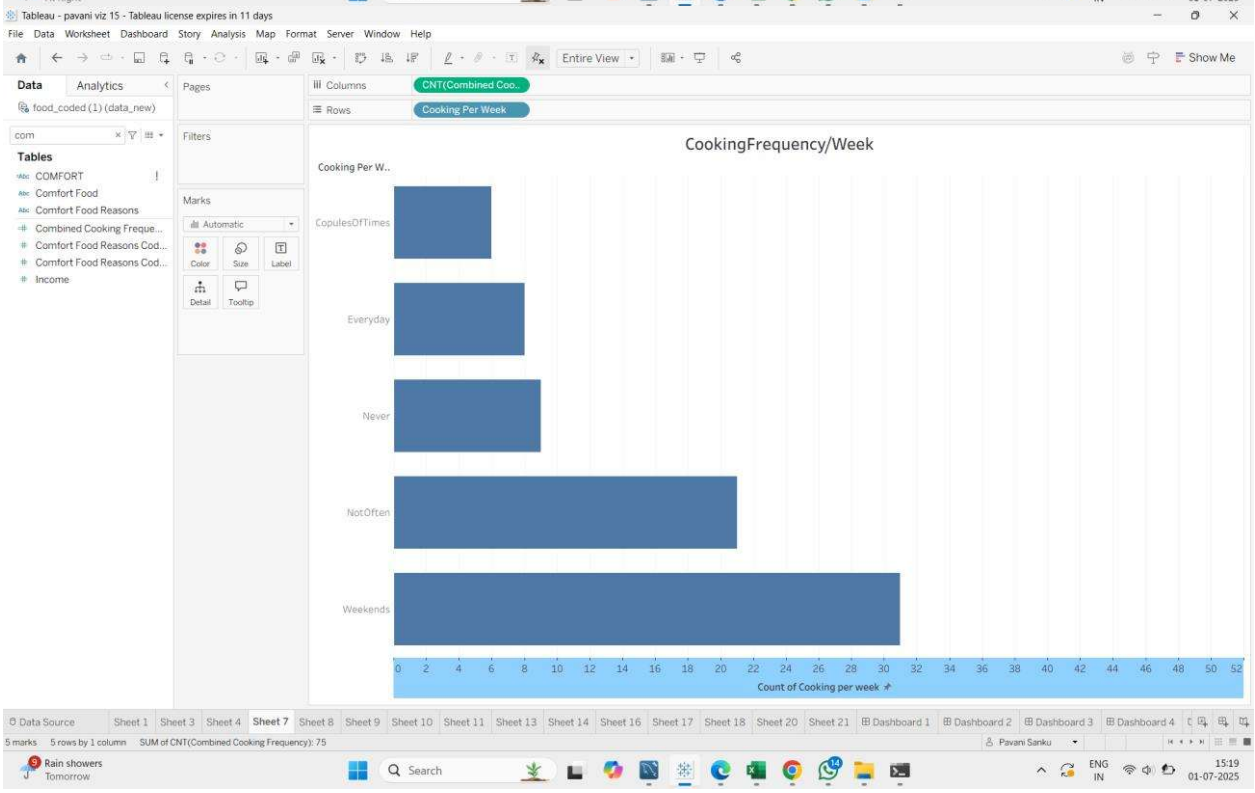


Tableau - pavani viz 15 - Tableau license expires in 11 days
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Entire View
Show Me
Data
Analytics
food_coded (1) (data_new)
Tables
COMFORT
Comfort Food
Comfort Food Reasons
Combined Cooking Freque...
Comfort Food Reasons Cod...
Comfort Food Reasons Cod...
Income
Pages
Filters
Calorie Day
Marks
Line
Color
Size
Label
Detail
Tooltip
Path
Columns
Calorie Day
Rows
CNT(Calorie Day)
Calorie Consumption per day
Calorie Day
Count of Calorie Day
NotImp
Other
VeryImp
Calorie Day
(All)
NotImp
Other
VeryImp
Data Source
Sheet 1
Sheet 3
Sheet 4
Sheet 7
Sheet 8
Sheet 9
Sheet 10
Sheet 11
Sheet 13
Sheet 14
Sheet 16
Sheet 17
Sheet 18
Sheet 20
Sheet 21
Dashboard 1
Dashboard 2
Dashboard 3
Dashboard 4
3 marks
1 row by 3 columns
SUM of CNT(Calorie Day): 75
Pavani Sanku
Light rain
At night
Search
ENG
IN
15:18
01-07-2025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Entire View
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Size
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Columns
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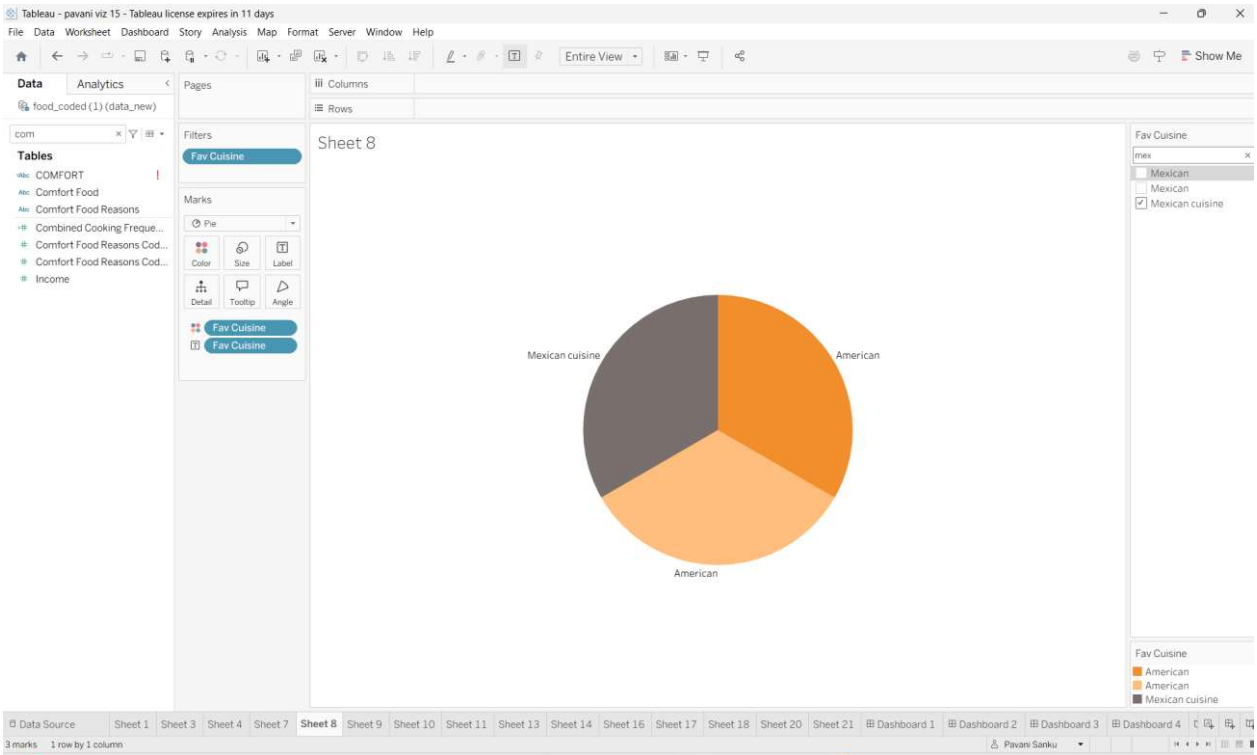
Rows
Cooking Per Week
CookingFrequency/Week
Cooking Per W..
CopulesOfTimes
Everyday
Never
NotOften
Weekends
Count of Cooking per week
Data Source
Sheet 1
Sheet 3
Sheet 4
Sheet 7
Sheet 8
Sheet 9
Sheet 10
Sheet 11
Sheet 13
Sheet 14
Sheet 16
Sheet 17
Sheet 18
Sheet 20
Sheet 21
Dashboard 1
Dashboard 2
Dashboard 3
Dashboard 4
5 marks
5 rows by 1 column
SUM of CNT(Combined Cooking Frequency): 75
Pavani Sanku
Rain showers
Tomorrow
Search
ENG
IN
15:19
01-07-2025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Sheet 8
Mexican cuisine
American
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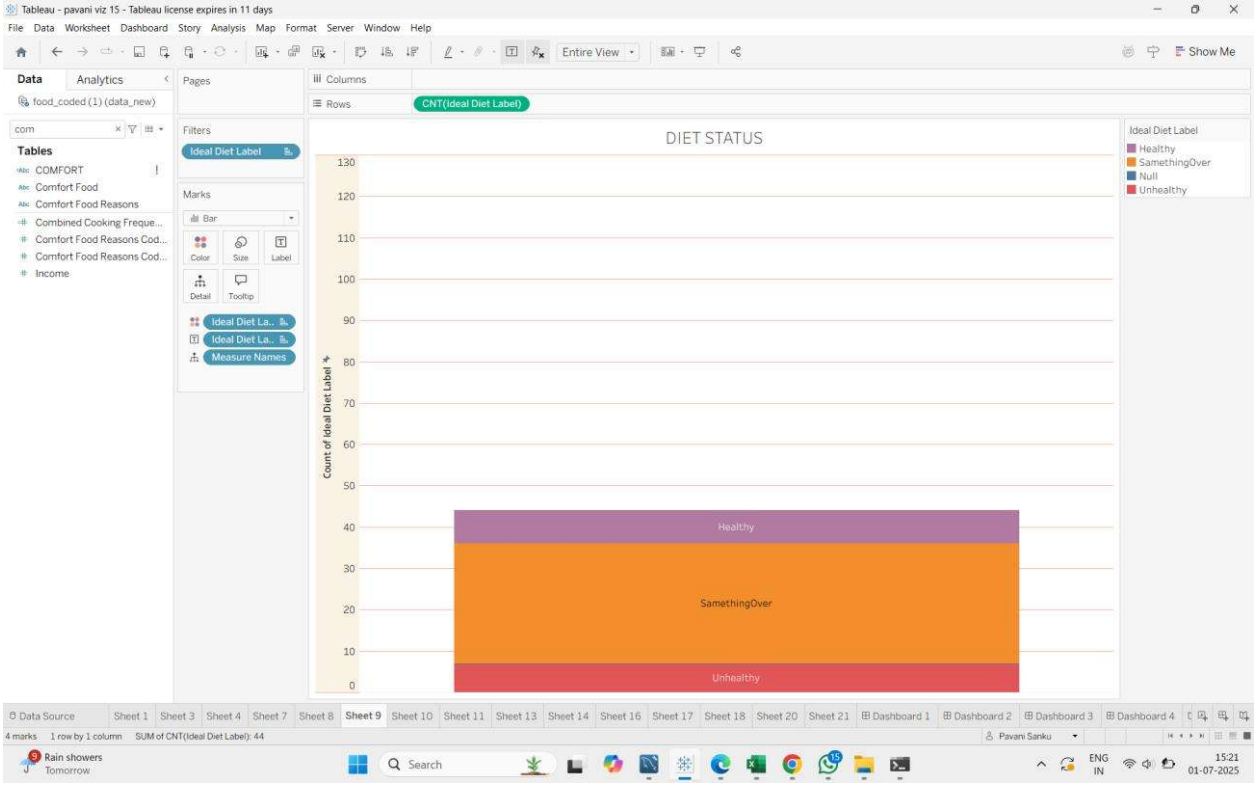
Mexican cuisine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DIET STATUS
Count of Ideal Diet Label
Healthy
SamethingOver
Unhealthy
Ideal Diet Label
Healthy
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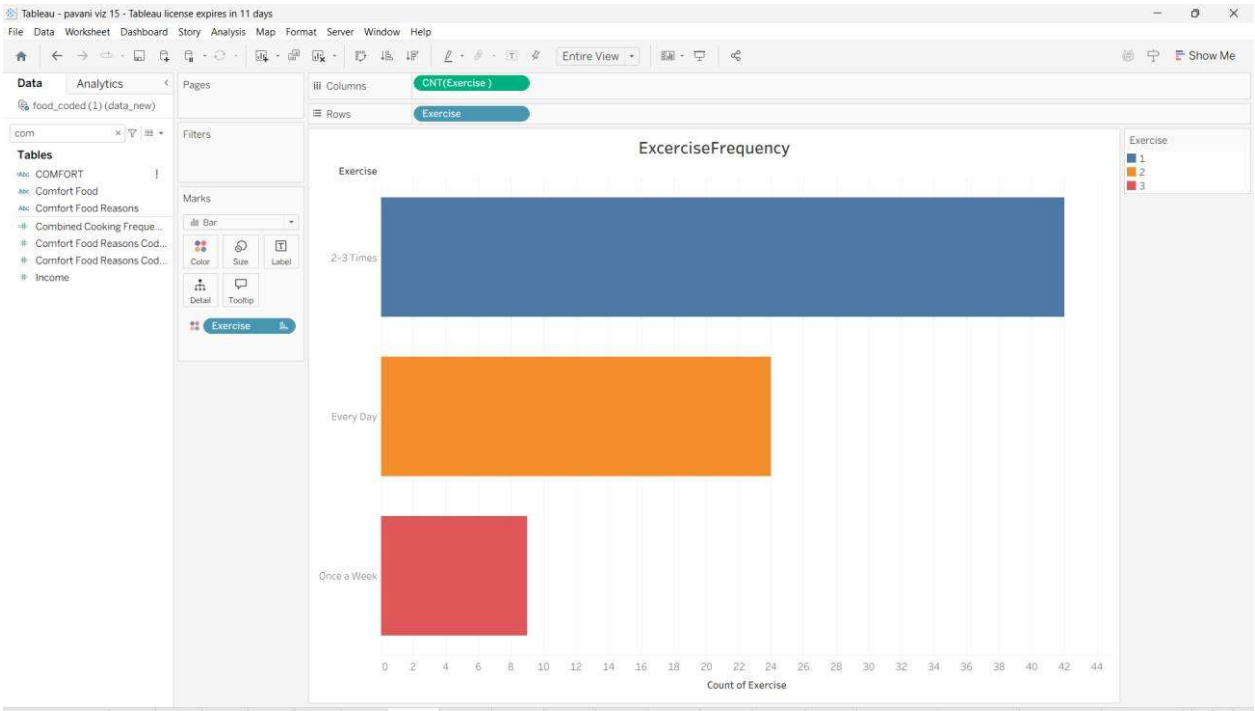
Null
Unhealthy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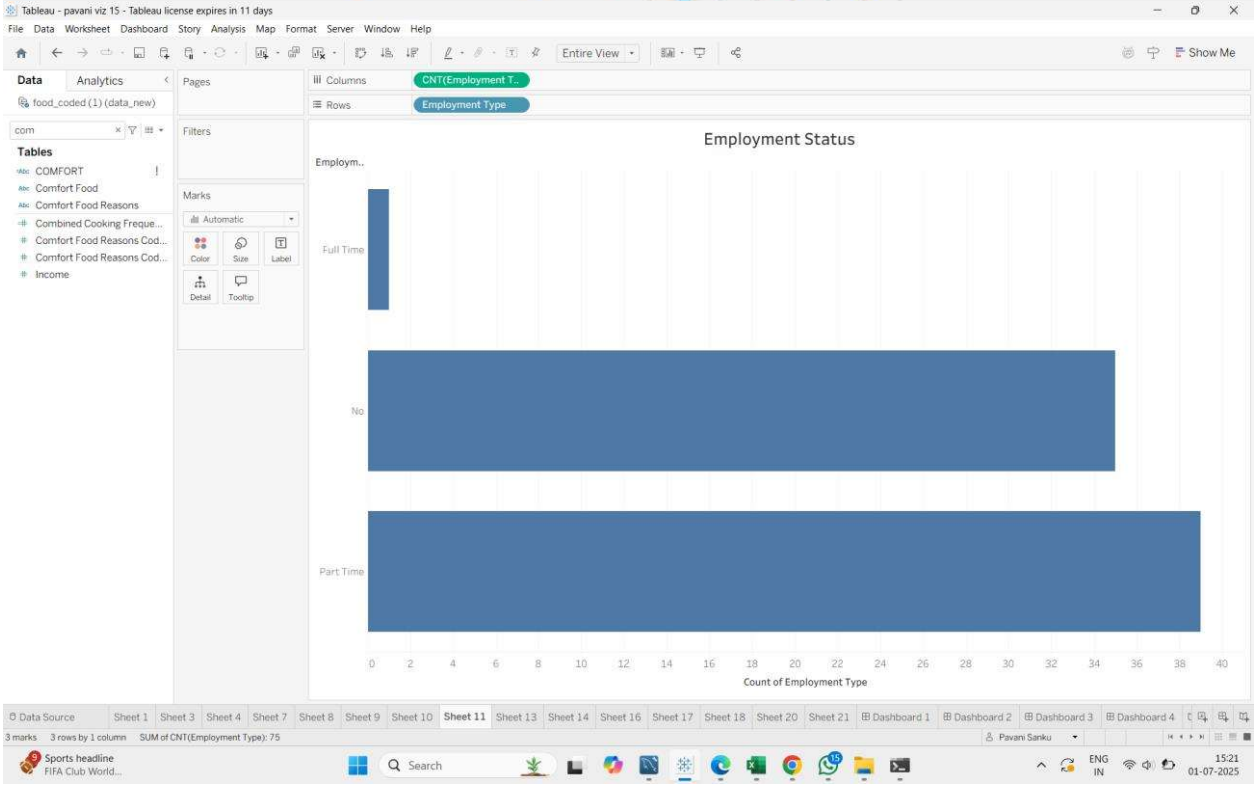
Comfort Food Reasons Cod...
Comfort Food Reasons Cod...
Income
Pages
Filters
Marks
Bar
Color
Size
Label
Detail
Tooltip
Exercise
Columns
CNT(Exercise)
Rows
Exercise
ExcerciseFrequency
Exercise
2-3 Times
Every Day
Once a Week
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44
Count of Exercise
Exercise
1
2
3
Data Source
Sheet 1
Sheet 3
Sheet 4
Sheet 7
Sheet 8
Sheet 9
Sheet 10
Sheet 11
Sheet 13
Sheet 14
Sheet 16
Sheet 17
Sheet 18
Sheet 20
Sheet 21
Dashboard 1
Dashboard 2
Dashboard 3
Dashboard 4
3 marks
3 rows by 1 column
SUM of CNT(Exercise): 75
Pavani Sanku
Sports headline
FIFA Club World...
Search
ENG
IN
15:21
01-07-2025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Comfort Food Reasons Cod...
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Tooltip
Columns
CNT(Employment T..
Rows
Employment Type
Employment Status
Employm..
Full Time
No
Part Time
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40
Count of Employment Type
Data Source
Sheet 1
Sheet 3
Sheet 4
Sheet 7
Sheet 8
Sheet 9
Sheet 10
Sheet 11
Sheet 13
Sheet 14
Sheet 16
Sheet 17
Sheet 18
Sheet 20
Sheet 21
Dashboard 1
Dashboard 2
Dashboard 3
Dashboard 4
3 marks
3 rows by 1 column
SUM of CNT(Employment Type): 75
Pavani Sanku
Sports headline
FIFA Club World...
Search
ENG
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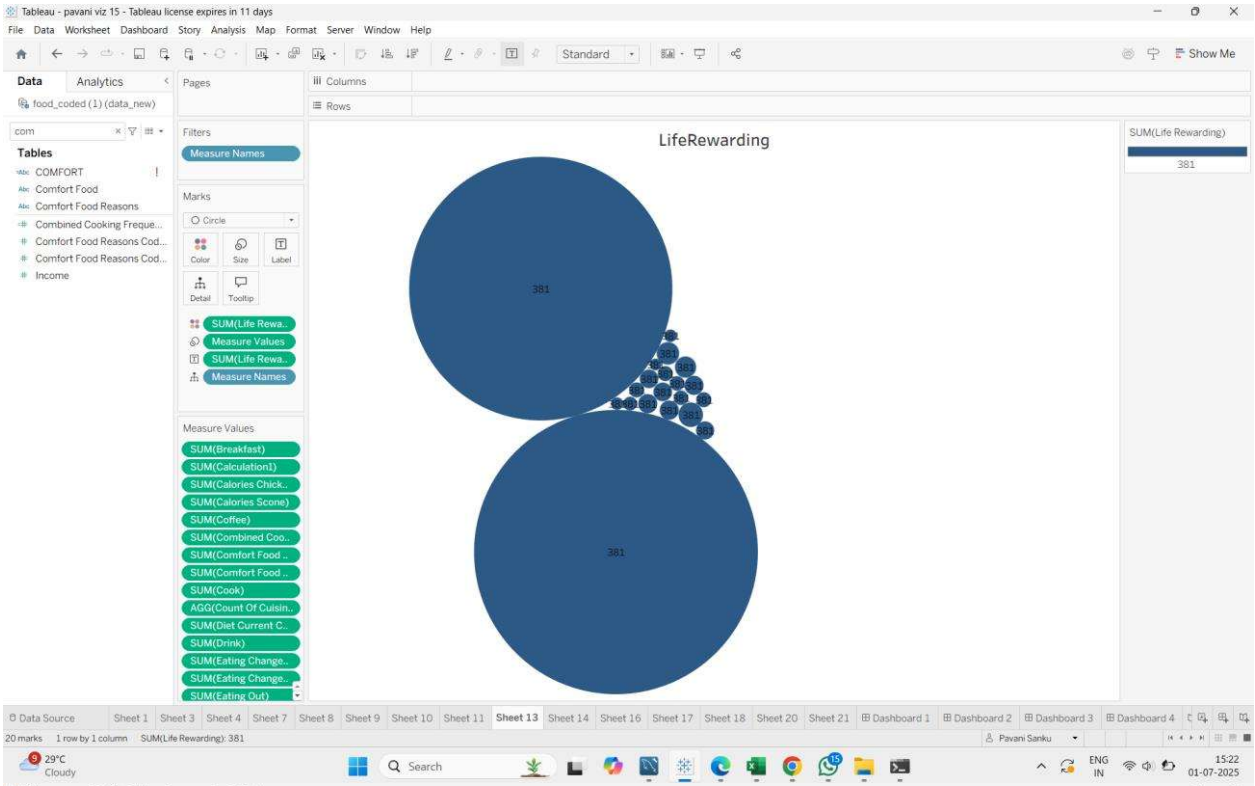
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Measure Values
SUM(Life Rewa..
Measure Names
Measure Values
SUM(Breakfast)
SUM(Calculation1)
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SUM(Cook)
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SUM(Drink)
SUM(Eating Change..
SUM(Eating Change..
SUM(Eating Out)
LifeRewarding
381
381
SUM(Life Rewarding)
381
Data Source
Sheet 1
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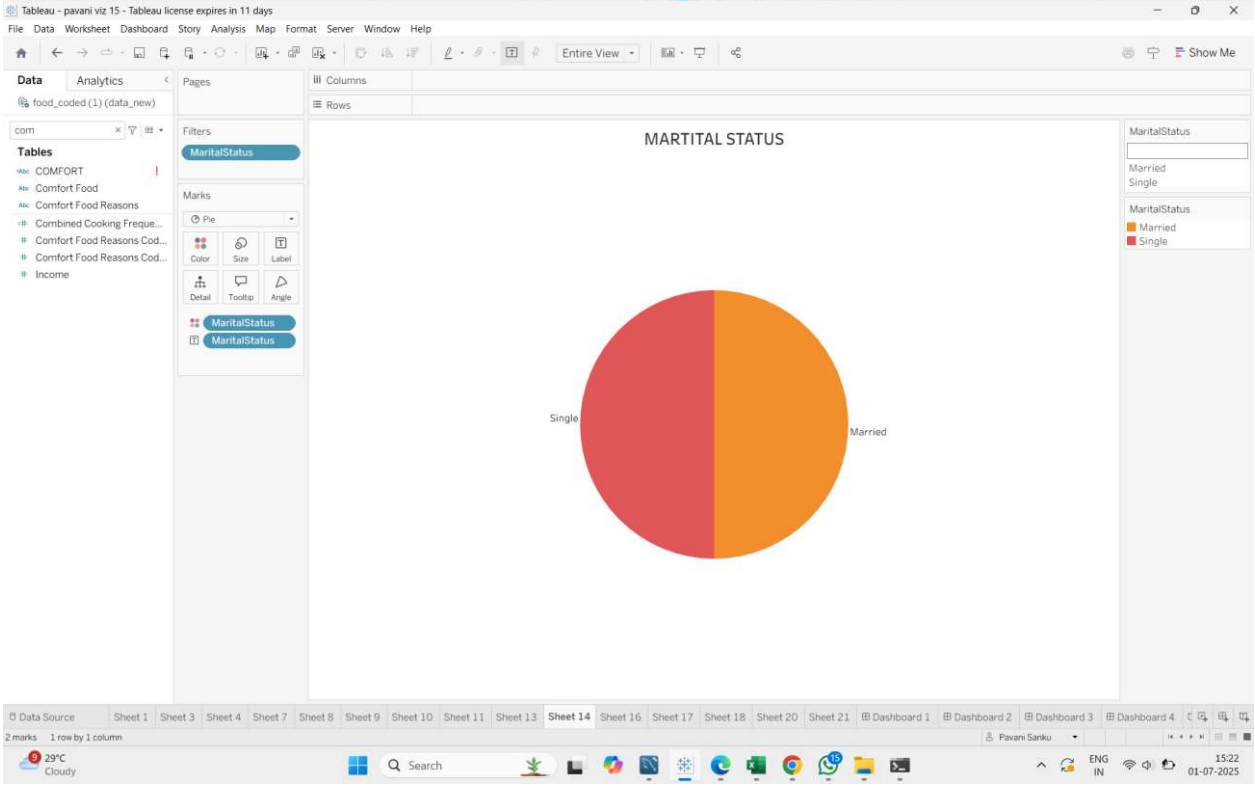
Sheet 9
Sheet 10
Sheet 11
Sheet 13
Sheet 14
Sheet 16
Sheet 17
Sheet 18
Sheet 20
Sheet 21
Dashboard 1
Dashboard 2
Dashboard 3
Dashboard 4
20 marks
1 row by 1 column
SUM(Life Rewarding): 381
Pavani Sanku
29°C
Cloudy
Search
ENG
IN
15:22
01-07-2025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MaritalStatus
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Single
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Married
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Data Source
Sheet 1
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Sheet 20
Sheet 21
Dashboard 1
Dashboard 2
Dashboard 3
Dashboard 4
2 marks
1 row by 1 column
Pavani Sanku
29°C
Cloudy
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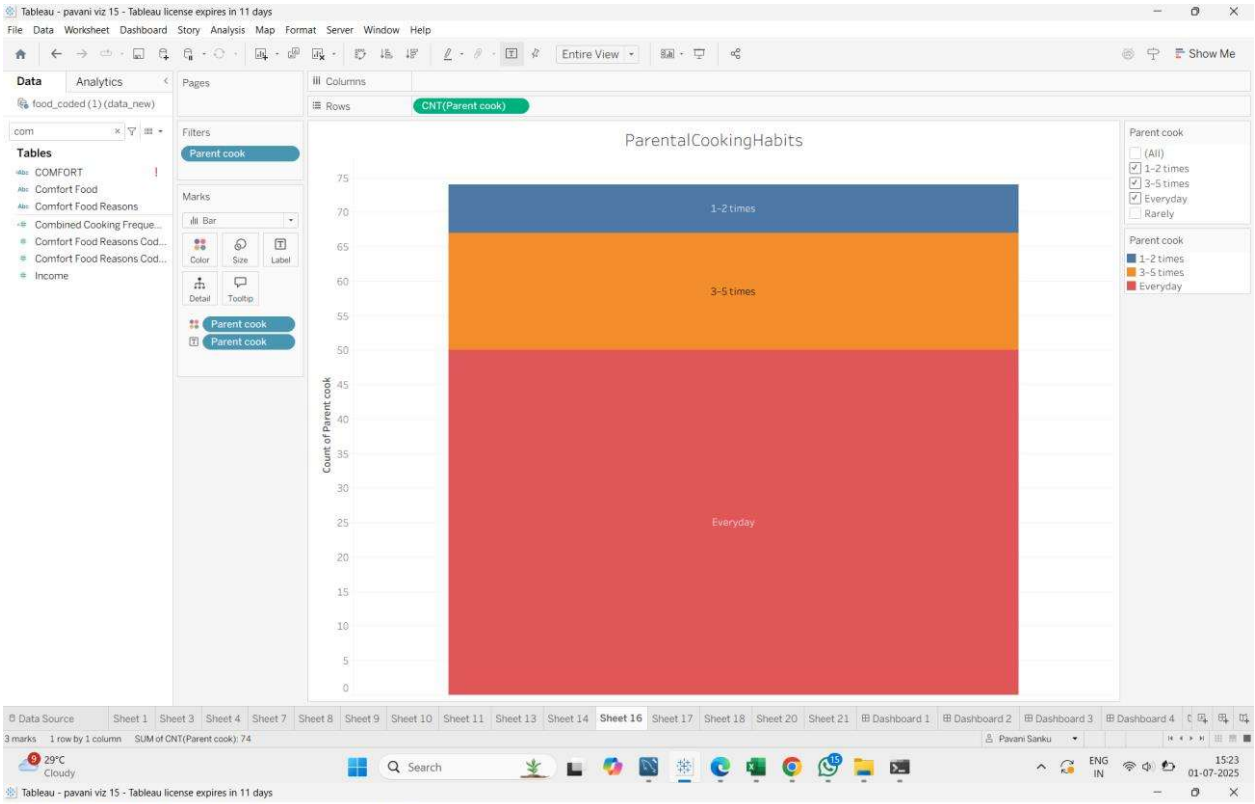
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Comfort Food Reasons
Combined Cooking Freque...
Comfort Food Reasons Cod...
Comfort Food Reasons Cod...
Income
Pages
Filters
Parent cook
Marks
Bar
Color
Size
Label
Detail
Tooltip
Parent cook
Parent cook
Columns
Rows
CNT(Parent cook)
ParentalCookingHabits
Count of Parent cook
1-2 times
3-5 times
Everyday
Parent cook
(All)
1-2 times
3-5 times
Everyday
Rarely
Parent cook
1-2 times
3-5 times
Everyday
Data Source
Sheet 1
Sheet 3
Sheet 4
Sheet 7
Sheet 8
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Sheet 11
Sheet 13
Sheet 14
Sheet 16
Sheet 17
Sheet 18
Sheet 20
Sheet 21
Dashboard 1
Dashboard 2
Dashboard 3
Dashboard 4
3 marks
1 row by 1 column
SUM of CNT(Parent cook): 74
Pavani Sanku
29°C
Cloudy
Search
ENG
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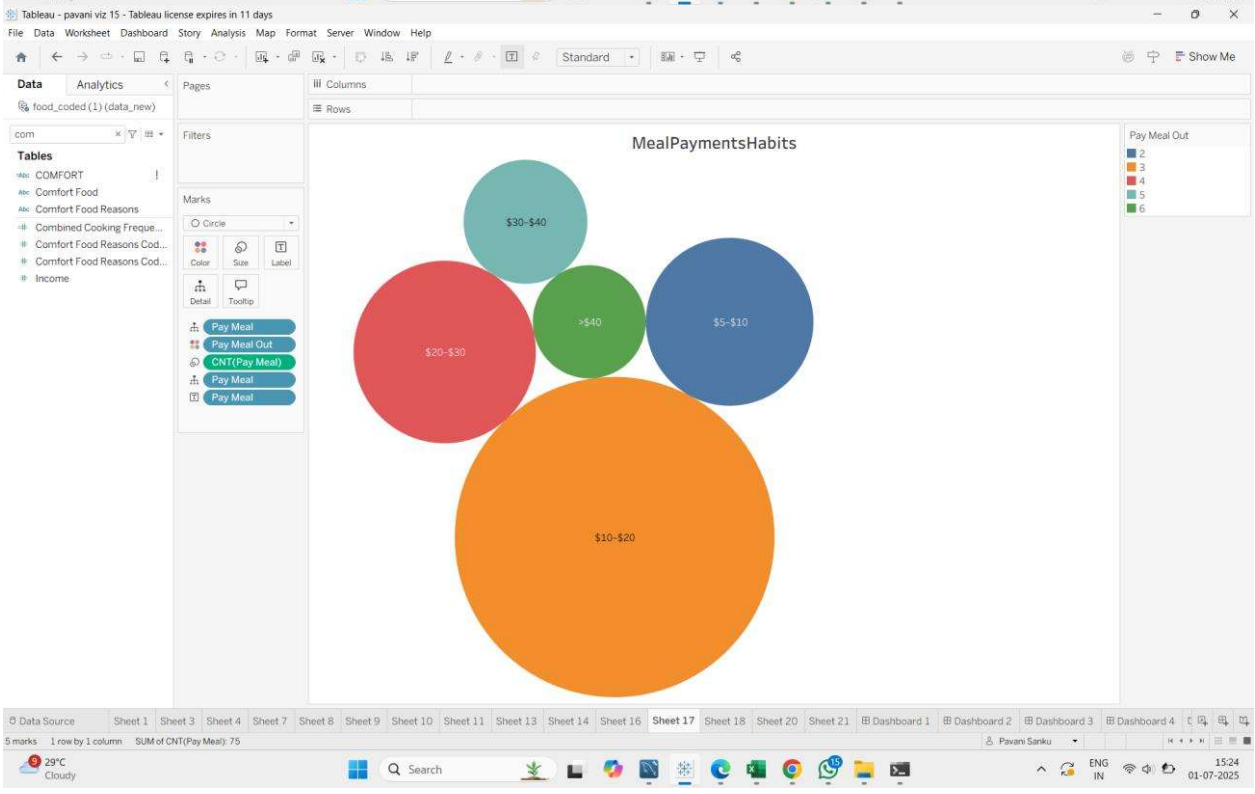
15:23
01-07-2025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Combined Cooking Freque...
Comfort Food Reasons Cod...
Comfort Food Reasons Cod...
Income
Pages
Filters
Marks
Circle
Color
Size
Label
Detail
Tooltip
Pay Meal
Pay Meal Out
CNT(Pay Meal)
Pay Meal
Pay Meal
Columns
Rows
MealPaymentsHabits
$30-$40
$20-$30
>$40
$5-$10
$10-$20
Pay Meal Out
2
3
4
5
6
Data Source
Sheet 1
Sheet 3
Sheet 4
Sheet 7
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Sheet 16
Sheet 17
Sheet 18
Sheet 20
Sheet 21
Dashboard 1
Dashboard 2
Dashboard 3
Dashboard 4
5 marks
1 row by 1 column
SUM of CNT(Pay Meal): 75
Pavani Sanku
29°C
Cloudy
Search
ENG
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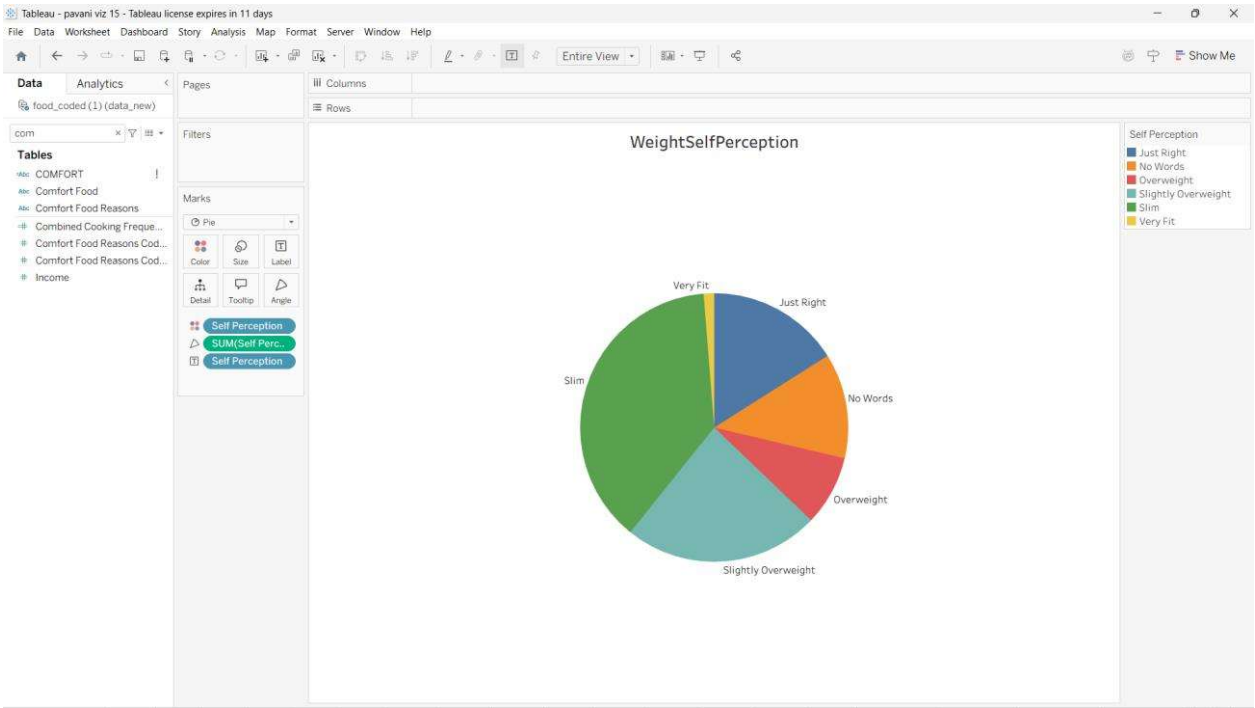
15:24
01-07-2025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File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Entire View
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food_coded (1) (data_new)
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COMFORT
Comfort Food
Comfort Food Reasons
Combined Cooking Freque...
Comfort Food Reasons Cod...
Comfort Food Reasons Cod...
Income
Pages
Filters
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Pie
Color
Size
Label
Detail
Tooltip
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Self Perception
SUM(Self Perc..
Self Perception
Columns
Rows
WeightSelfPerception
Self Perception
Just Right
No Words
Overweight
Slightly Overweight
Slim
Very Fit
Very Fit
Just Right
No Words
Slim
Overweight
Slightly Overweight
Data Source
Sheet 1
Sheet 3
Sheet 4
Sheet 7
Sheet 8
Sheet 9
Sheet 10
Sheet 11
Sheet 13
Sheet 14
Sheet 16
Sheet 17
Sheet 18
Sheet 20
Sheet 21
Dashboard 1
Dashboard 2
Dashboard 3
Dashboard 4
6 marks
1 row by 1 column
SUM(Self Perception Weight): 237
Pavani Sanku
29°C
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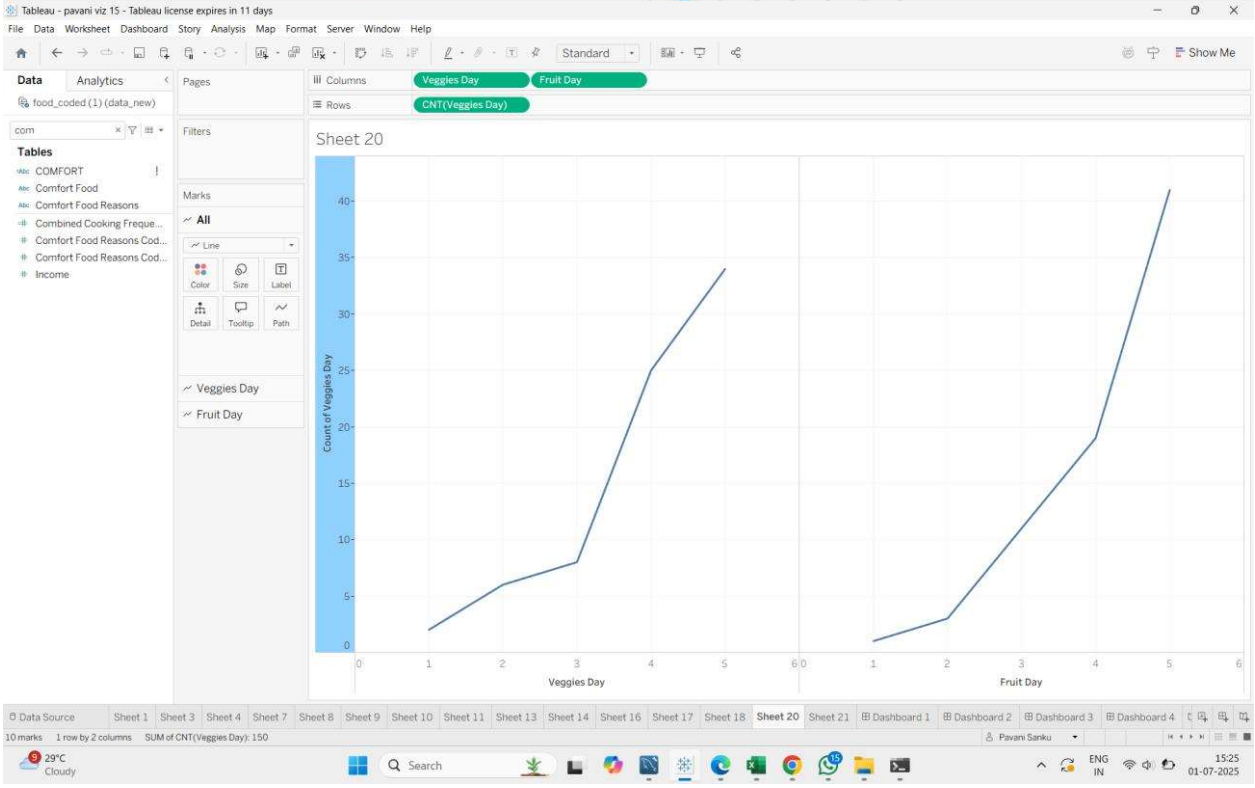
01-07-2025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Show Me
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Analytics
food_coded (1) (data_new)
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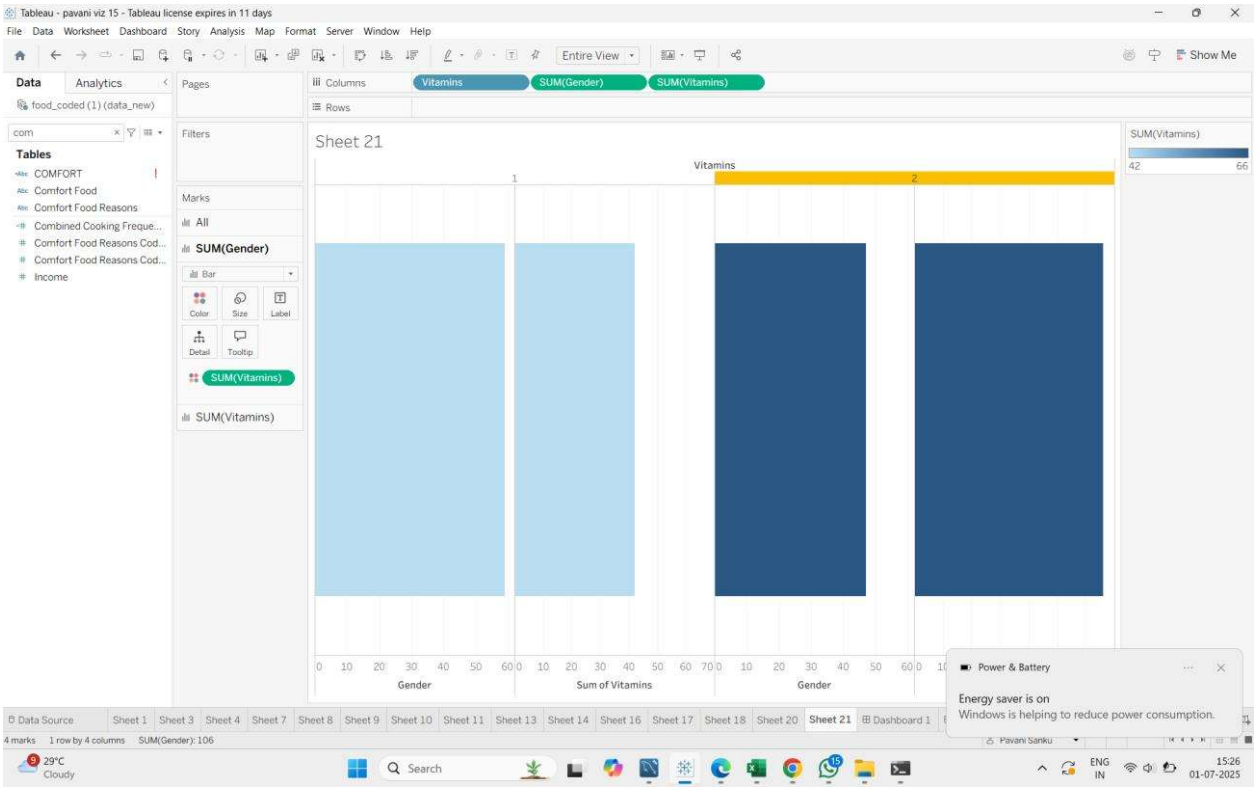
COMFORT
Comfort Food
Comfort Food Reasons
Combined Cooking Freque...
Comfort Food Reasons Cod...
Comfort Food Reasons Cod...
Income
Pages
Filters
Marks
All
Line
Color
Size
Label
Detail
Tooltip
Path
Veggies Day
Fruit Day
Columns
Veggies Day
Fruit Day
Rows
CNT(Veggies Day)
Sheet 20
Count of Veggies Day
Veggies Day
Fruit Day
Data Source
Sheet 1
Sheet 3
Sheet 4
Sheet 7
Sheet 8
Sheet 9
Sheet 10
Sheet 11
Sheet 13
Sheet 14
Sheet 16
Sheet 17
Sheet 18
Sheet 20
Sheet 21
Dashboard 1
Dashboard 2
Dashboard 3
Dashboard 4
10 marks
1 row by 2 columns
SUM of CNT(Veggies Day): 150
Pavani Sanku
29°C
Cloudy
Search
ENG
IN
15:25
01-07-2025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Data Analytics
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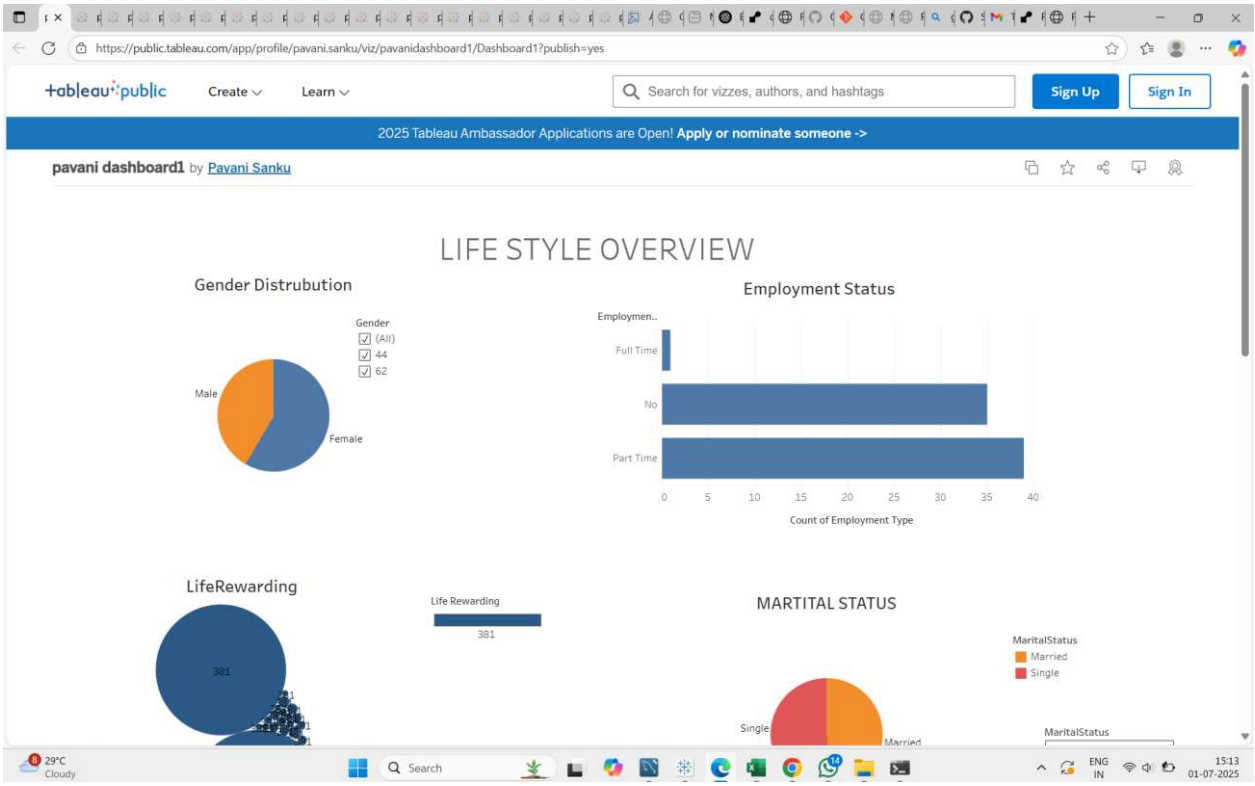
Combined Cooking Freque...
Comfort Food Reasons Cod...
Comfort Food Reasons Cod...
Income
Pages
Filters
Marks
All
SUM(Gender)
Bar
Color
Size
Label
Detail
Tooltip
SUM(Vitamins)
Columns
Vitamins
SUM(Gender)
SUM(Vitamins)
Rows
Sheet 21
Vitamins
Gender
Sum of Vitamins
Gender
SUM(Vitamins)
42
66
Power & Battery
Energy saver is on
Windows is helping to reduce power consumption.
Data Source
Sheet 1
Sheet 3
Sheet 4
Sheet 7
Sheet 8
Sheet 9
Sheet 10
Sheet 11
Sheet 13
Sheet 14
Sheet 16
Sheet 17
Sheet 18
Sheet 20
Sheet 21
Dashboard 1
4 marks
1 row by 4 columns
SUM(Gender): 106
29°C
Cloudy
Search
ENG
IN
15:26
01-07-2025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+tableau public
Create
Learn
Search for vizzes, authors, and hashtags
Sign Up
Sign In
2025 Tableau Ambassador Applications are Open! Apply or nominate someone ->
pavani dashboard1 by Pavani Sanku
LIFE STYLE OVERVIEW
Gender Distrubution
Gender
(All)
44
62
Male
Female
Employment Status
Employmen..
Full Time
No
Part Time
Count of Employment Type
LifeRewarding
381
Life Rewarding
381
MARTITAL STATUS
MaritalStatus
Married
Single
Single
Married
MaritalStatus
29°C
Cloudy
Search
ENG
IN
15:13
01-07-2025

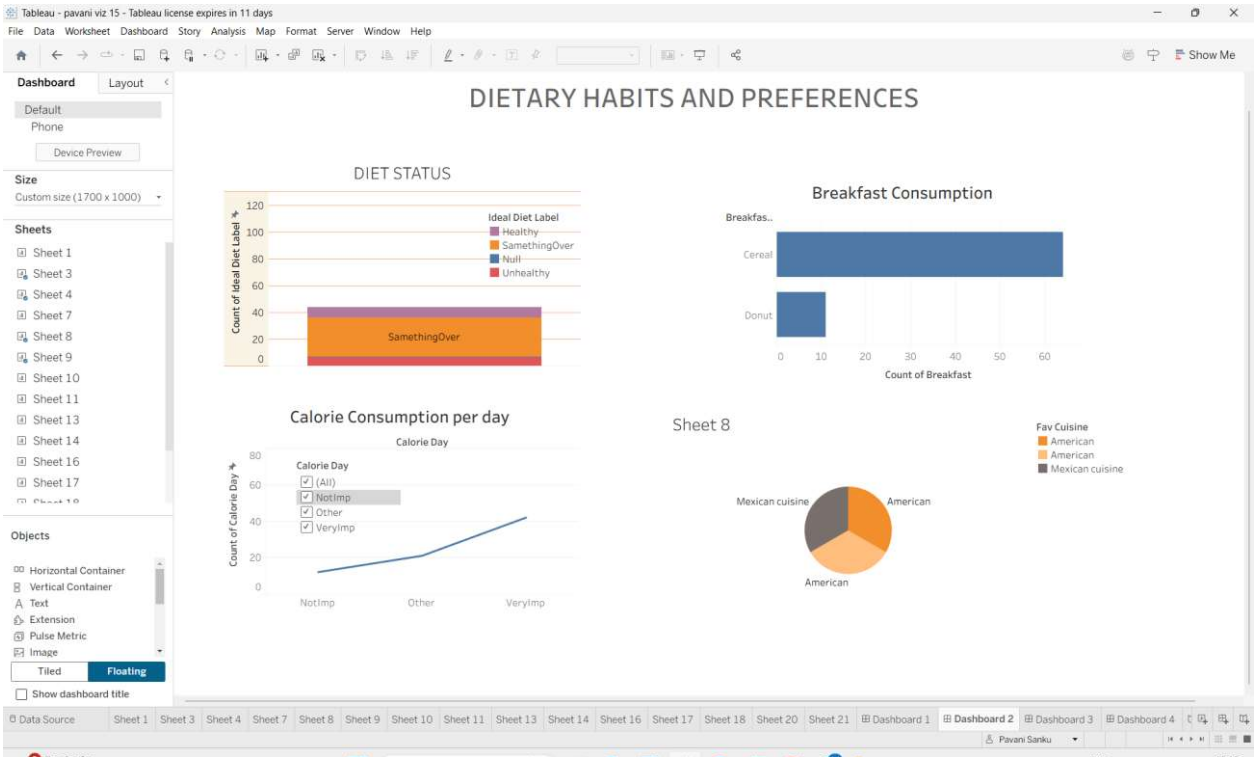
Tableau - pavani viz 15 - Tableau license expires in 11 days
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Show Me
Dashboard
Layout
Default
Phone
Device Preview
Size
Custom size (1700 x 1000)
Sheets
Sheet 1
Sheet 3
Sheet 4
Sheet 7
Sheet 8
Sheet 9
Sheet 10
Sheet 11
Sheet 13
Sheet 14
Sheet 16
Sheet 17
Objects
Horizontal Container
Vertical Container
Text
Extension
Pulse Metric
Image
Tiled
Floating
Show dashboard title
DIETARY HABITS AND PREFERENCES
DIET STATUS
Count of Ideal Diet Label
Ideal Diet Label
Healthy
SamethingOver
Null
Unhealthy
SamethingOver
Breakfast Consumption
Breakfas..
Cereal
Donut
Count of Breakfast
Calorie Consumption per day
Calorie Day
Count of Calorie Day
(All)
NotImp
Other
VeryImp
Sheet 8
Fav Cuisine
American
American
Mexican cuisine
Mexican cuisine
American
American
Data Source
Dashboard 1
Dashboard 2
Dashboard 3
Dashboard 4
Pavani Sanku
Top Stories
Search
ENG
IN
15:15
01-07-2025

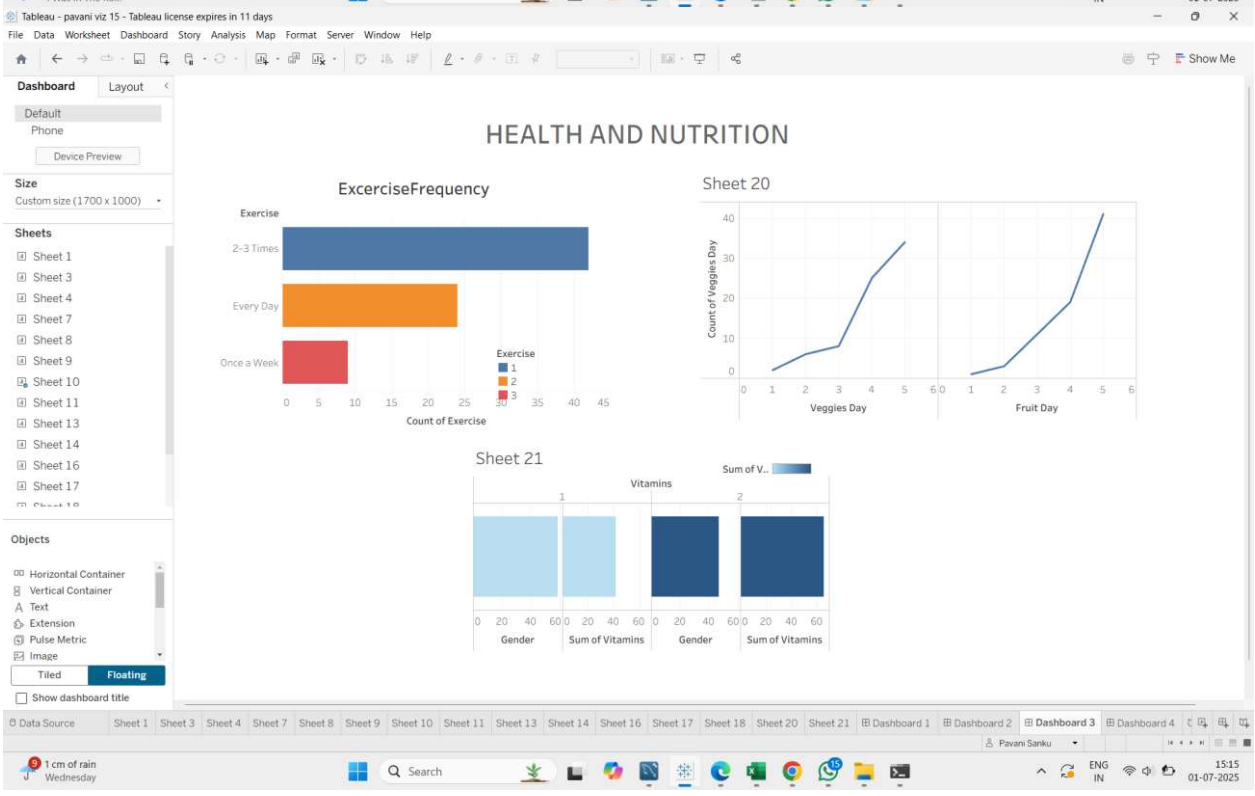
Tableau - pavani viz 15 - Tableau license expires in 11 days
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Show Me
Dashboard
Layout
Default
Phone
Device Preview
Size
Custom size (1700 x 1000)
Sheets
Objects
Horizontal Container
Vertical Container
Text
Extension
Pulse Metric
Image
Tiled
Floating
Show dashboard title
HEALTH AND NUTRITION
ExcerciseFrequency
Exercise
2-3 Times
Every Day
Once a Week
Count of Exercise
Sheet 20
Count of Veggies Day
Veggies Day
Fruit Day
Sheet 21
Vitamins
Sum of V..
Gender
Sum of Vitamins
Gender
Sum of Vitamins
Data Source
Dashboard 1
Dashboard 2
Dashboard 3
Dashboard 4
Pavani Sanku
1 cm of rain
Wednesday
Search
ENG
IN
15:15
01-07-2025

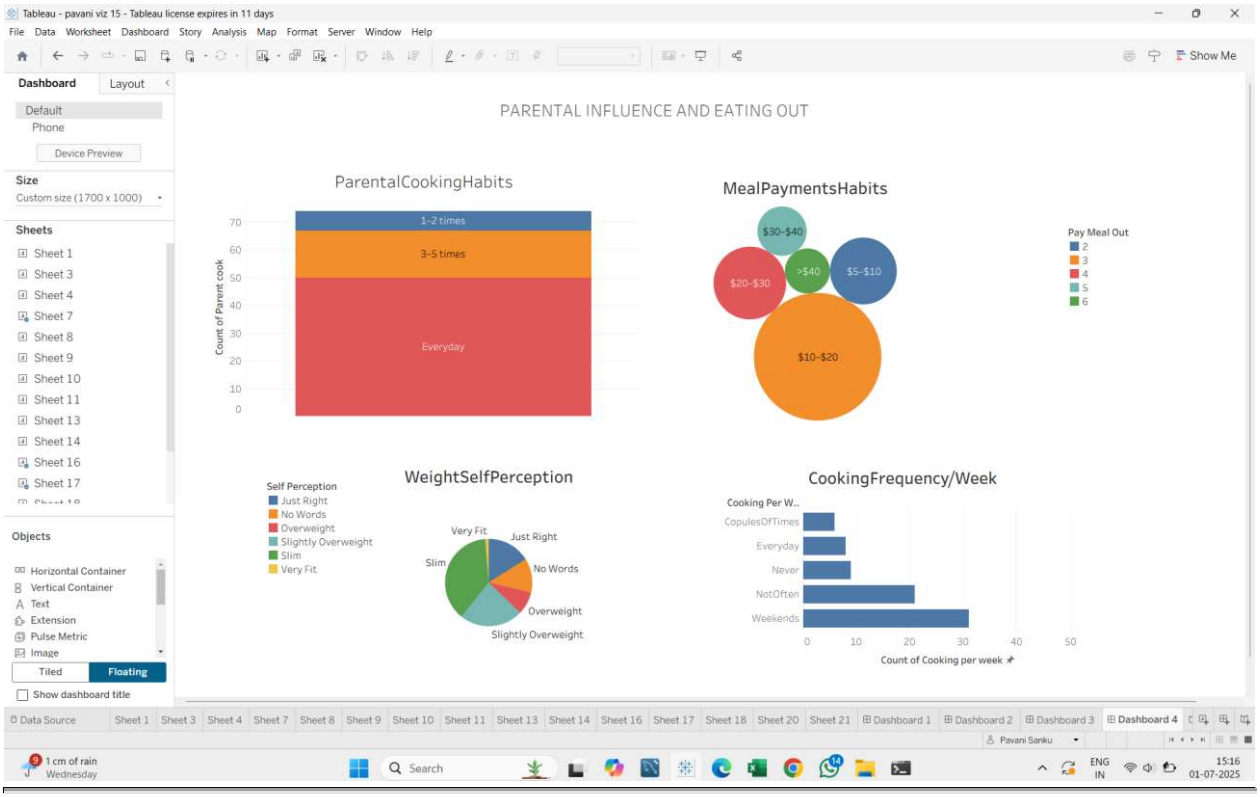
Tableau - pavani viz 15 - Tableau license expires in 11 days
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Show Me
Dashboard
Layout
Default
Phone
Device Preview
Size
Custom size (1700 x 1000)
Sheets
Sheet 1
Sheet 3
Sheet 4
Sheet 7
Sheet 8
Sheet 9
Sheet 10
Sheet 11
Sheet 13
Sheet 14
Sheet 16
Sheet 17
Objects
Horizontal Container
Vertical Container
Text
Extension
Pulse Metric
Image
Tiled
Floating
Show dashboard title
PARENTAL INFLUENCE AND EATING OUT
ParentalCookingHabits
Count of Parent cook
1-2 times
3-5 times
Everyday
MealPaymentsHabits
$30-$40
$20-$30
>$40
$5-$10
$10-$20
Pay Meal Out
2
3
4
5
6
Self Perception
Just Right
No Words
Overweight
Slightly Overweight
Slim
Very Fit
WeightSelfPerception
CookingFrequency/Week
Cooking Per W..
CopulesOfTimes
Everyday
Never
NotOften
Weekends
Count of Cooking per week
Data Source
Dashboard 1
Dashboard 2
Dashboard 3
Dashboard 4
Pavani Sanku
1 cm of rain
Wednesday
Search
ENG
IN
15:16
01-07-2025

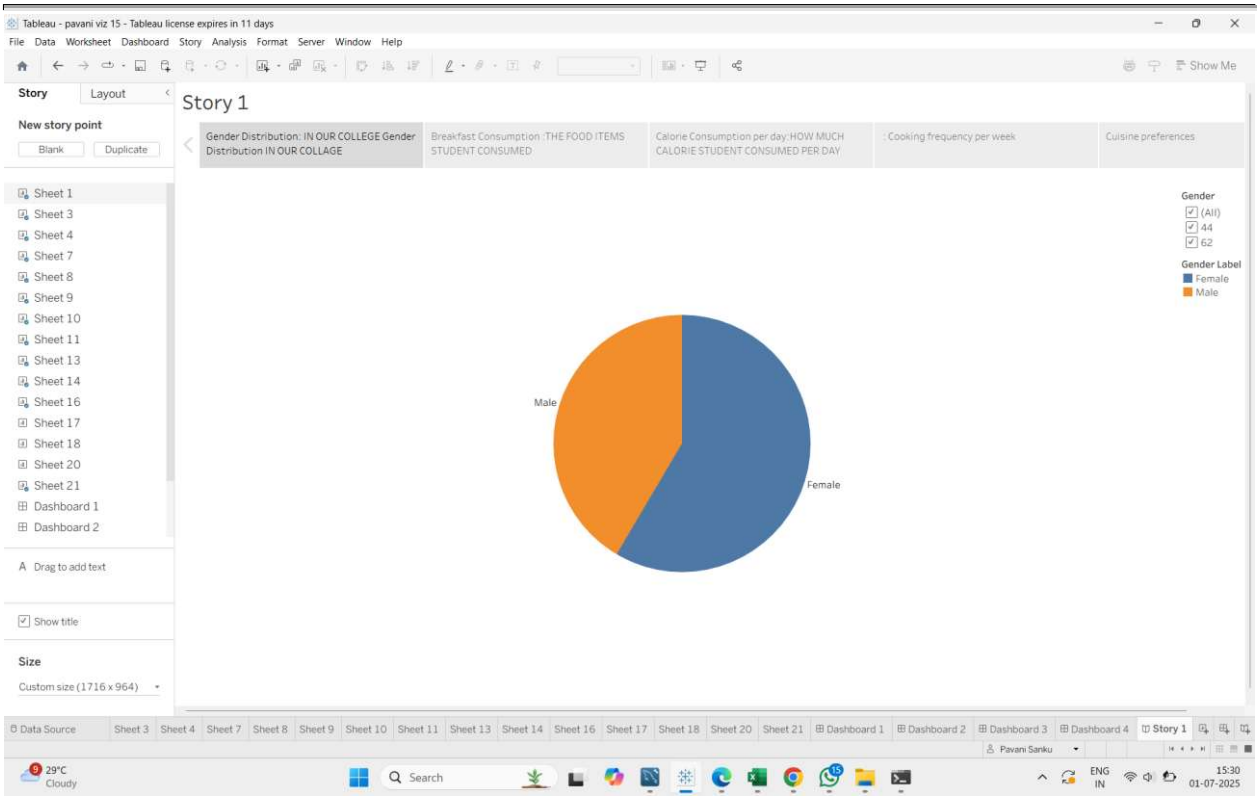
Tableau - pavani viz 15 - Tableau license expires in 11 days
File Data Worksheet Dashboard Story Analysis Format Server Window Help
Show Me
Story
Layout
New story point
Blank
Duplicate
Sheet 1
Sheet 3
Sheet 4
Sheet 7
Sheet 8
Sheet 9
Sheet 10
Sheet 11
Sheet 13
Sheet 14
Sheet 16
Sheet 17
Sheet 18
Sheet 20
Sheet 21
Dashboard 1
Dashboard 2
Drag to add text
Show title
Size
Custom size (1716 x 964)
Story 1
Gender Distribution: IN OUR COLLEGE Gender Distribution IN OUR COLLAGE
Breakfast Consumption :THE FOOD ITEMS STUDENT CONSUMED
Calorie Consumption per day: HOW MUCH CALORIE STUDENT CONSUMED PER DAY
: Cooking frequency per week
Cuisine preferences
Gender
(All)
44
62
Gender Label
Female
Male
Male
Female
Data Source
Dashboard 3
Dashboard 4
Story 1
Pavani Sanku
29°C
Cloudy
Search
ENG
IN
15:30
01-07-2025

8. ADVANTAGES & DISADVANTAGES

Advantages: - Real-time dietary insights. - Predictive health alerts. - Supports data-driven decisions. - Visual, interactive platform.

Disadvantages: - Dependent on data accuracy. - Requires periodic updates.

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9. CONCLUSION

The project demonstrates how Tableau can effectively visualize student dietary patterns, empowering stakeholders with actionable insights and promoting healthier choices.

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10. FUTURE SCOPE

- Integration with wearables.
- Advanced machine learning models.
- Expansion to mental health correlations.
- Mobile app development for personalized feedback.

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11. APPENDIX

- Dataset Link: https://www.kaggle.com/datasets/borapajo/food-choices?select=food_coded.csv
- GitHub & Demo Link: Available upon request.
- Public Dashboard Link 1: https://public.tableau.com/app/profile/pavani.sanku/viz/pavanidashboard1/Dashboard1?publish=yes
- Public Dashboard Link 2: https://public.tableau.com/app/profile/pavani.sanku/viz/pavanidashboard2/Dashboard2?publish=yes
- Public Dashboard Link 3 : https://public.tableau.com/app/profile/pavani.sanku/viz/pavanidashboard2/Dashboard2?publish=yes
- Public Dashboard Link 4 : https://public.tableau.com/app/profile/pavani.sanku/viz/pavanidashboard4/Dashboard4?publish=yes
- Public Story Link : https://public.tableau.com/app/profile/pavani.sanku/viz/pavanistory/Story1?publish=yes