DSA 0603 Data Handling and Visualization for Histogram Analysis

**List of Programs in R and Tableau**

1. **Monthly Sales Data**

|  |  |
| --- | --- |
| **Month** | **Sales (in $)** |
| January | 15000 |
| February | 18000 |
| March | 22000 |
| April | 20000 |
| May | 23000 |

1. Using R Create a line chart to visualize the monthly sales. Label the axes and tit the chart appropriately.
2. Using R Generate a bar chart to display the top-selling products for the year. Label the chart elements.
3. Using R Develop a scatter plot to explore the relationship between advertising budget and monthly sales. Explain the insights drawn from the scatter plot.
4. Using Tableau Build an interactive dashboard combining the line chart and bar chart to allow users to explore sales data interactively.
5. **Customer Feedback Analysis**

|  |  |  |
| --- | --- | --- |
| **Customer ID** | **Age** | **Satisfaction Score** |
| 1 | 25 | 4 |
| 2 | 30 | 5 |
| 3 | 35 | 3 |
| 4 | 28 | 4 |
| 5 | 40 | 5 |

1. Using R Create a histogram to represent the distribution of customer ages. Label the axes and title the chart.
2. Using R Generate a pie chart to display the overall distribution of customer satisfaction scores. Include labels.
3. Using R Build a stacked bar chart to visualize the distribution of customer satisfaction scores by age group.
4. In Tableau, develop a word cloud from open-ended customer feedback to identify prevalent customer sentiments.
5. **Employee Performance Evaluation**

|  |  |  |  |
| --- | --- | --- | --- |
| **Employee ID** | **Department** | **Years of Service** | **Performance Score** |
| 1 | Sales | 5 | 85 |
| 2 | HR | 3 | 92 |
| 3 | Marketing | 7 | 78 |
| 4 | Sales | 4 | 90 |
| 5 | HR | 2 | 76 |

1. Using R Create a line chart to visualize the performance trend of employees over time. Include a legend and labels.
2. Using R Generate a bar chart showing the distribution of employees across different departments. Label the chart elements.
3. Using R Build a scatter plot to analyse the correlation between years of service and performance scores. Explain any insights.
4. Develop a Tableau dashboard with the line chart and bar chart for interactive exploration.
5. **Product Inventory Management**

|  |  |  |
| --- | --- | --- |
| **Product ID** | **Product Name** | **Quantity Available** |
| 1 | Product A | 250 |
| 2 | Product B | 175 |
| 3 | Product C | 300 |
| 4 | Product D | 200 |
| 5 | Product E | 220 |

1. Using R Create a bar chart to visualize the quantity of each product in the inventory. Label the axes and title the chart.
2. Using R Generate a stacked bar chart to show the quantity of each product within different product categories.
3. Using R Build a scatter plot to explore the relationship between product price and quantity available. Explain the findings.
4. Develop a Tableau dashboard with the bar chart and stacked bar chart to allow users to interact with the data.

**5. Website Analytics**

|  |  |  |
| --- | --- | --- |
| **Date** | **Page Views** | **Click-through Rate** |
| 2023-01-01 | 1500 | 2.3% |
| 2023-01-02 | 1600 | 2.7% |
| 2023-01-03 | 1400 | 2.0% |
| 2023-01-04 | 1650 | 2.4% |
| 2023-01-05 | 1800 | 2.6% |

1. Using R Create a line chart to visualize the trend in daily page views over time. Label the axes and title the chart.
2. Using R Generate a bar chart showing the top N days with the highest click-through rates. Label the chart elements.
3. Using R Develop a stacked area chart to display the distribution of user interactions (likes, shares, comments) on a website.
4. Build a Tableau dashboard with the line chart and bar chart for interactive exploration of website traffic data.

**6. Product Sales Analysis**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Product ID** | **Product Name** | **January Sales** | **February Sales** | **March Sales** |
| 1 | Product A | 2000 | 2200 | 2400 |
| 2 | Product B | 1500 | 1800 | 1600 |
| 3 | Product C | 1200 | 1400 | 1100 |

1. Using R Create a grouped bar chart to visualize the sales of each product for the first quarter. Label the chart elements.
2. Using R Generate a stacked area chart to represent the overall sales trend for all products over the three months.
3. Using R Build a table to show the monthly sales data for each product. Label the table elements.
4. Develop a Tableau dashboard combining the grouped bar chart, stacked area chart, and the table for interactive exploration of sales data.

7. **Customer Demographics Analysis**

|  |  |  |  |
| --- | --- | --- | --- |
| **Customer ID** | **Age** | **Gender** | **Income (in $)** |
| 1 | 28 | Female | 50000 |
| 2 | 35 | Male | 60000 |
| 3 | 42 | Female | 75000 |

1. Using R Create a bar chart to visualize the distribution of customer ages. Label the axes and title the chart.
2. Using R Generate a pie chart to represent the distribution of customers by gender.
3. Using R Build a table to show the demographic information for each customer. Label the table elements.
4. Develop a Tableau dashboard combining the bar chart, pie chart, and the table for interactive exploration of customer demographics.

**8 .** **Employee Performance Analysis**

|  |  |  |  |
| --- | --- | --- | --- |
| **Employee ID** | **Department** | **Years of Service** | **Performance Score** |
| 1 | Sales | 5 | 85 |
| 2 | HR | 3 | 92 |
| 3 | Marketing | 7 | 78 |

1. Using R Create a line chart to visualize the performance trend of employees over time. Label the axes and title the chart.
2. Using R Generate a bar chart showing the distribution of employees across different departments. Label the chart elements.
3. Using R Build a table to display the performance data for each employee. Label the table elements.
4. Develop a Tableau dashboard combining the line chart, bar chart, and the table for interactive exploration of employee performance data.

9. **Product Inventory Management**

|  |  |  |  |
| --- | --- | --- | --- |
| **Product ID** | **Product Name** | **Quantity Available** | **Price (in $)** |
| 1 | Product A | 250 | 20 |
| 2 | Product B | 175 | 15 |
| 3 | Product C | 300 | 18 |

1. Using R Create a bar chart to visualize the quantity of each product in the inventory. Label the axes and title the chart.
2. Using R Generate a stacked bar chart to show the quantity of each product within different product categories.
3. Using R Build a table to show the inventory data for each product. Label the table elements.
4. Develop a Tableau dashboard combining the bar chart, stacked bar chart, and the table for interactive exploration of inventory data.

10. **Survey Responses Analysis**

|  |  |  |  |
| --- | --- | --- | --- |
| **Survey ID** | **Question 1** | **Question 2** | **Question 3** |
| 1 | A | B | C |
| 2 | B | A | D |
| 3 | C | A | B |

1. Using R Create a grouped bar chart to visualize the distribution of answers for Question 1. Label the chart elements.
2. Using R Generate a stacked bar chart to represent the overall distribution of responses for all three questions.
3. Using R Build a table to show the survey response data for each survey. Label the table elements.
4. Develop a Tableau dashboard combining the grouped bar chart, stacked bar chart, and the table for interactive exploration of survey responses.

**11.Product Category Analysis**

|  |  |
| --- | --- |
| **Category** | **Sales (in $)** |
| Electronics | 50000 |
| Clothing | 35000 |
| Appliances | 40000 |

1. Using R Create a pie chart to represent the distribution of sales across product categories. Include labels.
2. Using R Generate a funnel chart to analyze the sales conversion process for each product category. Label the stages and title the chart.
3. Using R Build a table to display the sales data for each product category. Label the table elements.
4. Develop a Tableau dashboard combining the pie chart, funnel chart, and the table for interactive exploration of product category data.

**12. Website Traffic**

|  |  |  |
| --- | --- | --- |
| **Date** | **Page Views** | **Click-through Rate** |
| 2023-01-01 | 1500 | 2.3% |
| 2023-01-02 | 1600 | 2.7% |
| 2023-01-03 | 1400 | 2.0% |

1. Using R Create a line chart to visualize the trend in daily page views over time. Label the axes and title the chart.
2. Using R Generate a bar chart showing the top N days with the highest click-through rates. Label the chart elements.
3. Using R Build a table to show the website traffic data for each day. Label the table elements.
4. Develop a Tableau dashboard combining the line chart, bar chart, and the table for interactive exploration of website traffic data.

**13. Geographic Data**

|  |  |  |  |
| --- | --- | --- | --- |
| **City** | **Population** | **Avg. Temperature** | **Elevation** |
| City A | 500000 | 75 | 1000 |
| City B | 700000 | 68 | 800 |
| City C | 600000 | 80 | 1200 |

1. Using R Create a map chart to visualize the distribution of cities on a geographic map. Label the map elements.
2. Using R Generate a scatter plot to explore the relationship between average temperature and population size. Explain any insights.
3. Using R Build a table to display the geographic data for each city. Label the table elements.
4. Develop a Tableau dashboard combining the map chart, scatter plot, and the table for interactive exploration of geographic data.

**14. Survey Results**

|  |  |  |  |
| --- | --- | --- | --- |
| **Respondent** | **Question 1** | **Question 2** | **Question 3** |
| 1 | A | B | C |
| 2 | B | A | D |
| 3 | C | A | B |

1. Using R Create a stacked bar chart to display the distribution of answers for Question 1. Label the chart elements.
2. Using R Generate a radar chart to visualize the overall pattern of responses across all three questions.
3. Using R Build a table to show the survey response data for each respondent. Label the table elements.
4. Develop a Tableau dashboard combining the stacked bar chart, radar chart, and the table for interactive exploration of survey responses.

**15. Customer Satisfaction**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Employee ID** | **Name** | | **Department** | **Years of Service** | | **Performance Score** |
| 1 | John Smith | | Sales | 5 | | 85 |
| 2 | Jane Doe | | HR | 3 | | 92 |
| 3 | Robert Brown | | Marketing | 7 | | 78 |
| 4 | Sarah White | | Sales | 4 | | 90 |
| 5 | Michael Lee | | HR | 2 | | 76 |
| ... | | ... | | | ... | |

1. In R, create a histogram to visualize the distribution of customer ages. Label the axes and title the chart.
2. In R, generate a pie chart to represent the distribution of overall customer satisfaction scores. Include labels.
3. In Tableau, build a stacked bar chart to visualize the distribution of customer satisfaction scores by age group.
4. In R, perform sentiment analysis on open-ended customer feedback and create a word cloud visualization.

**16. Product Sales Analysis**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Product ID** | **Product Name** | **January Sales** | **February Sales** | **March Sales** |
| 1 | Product A | 2000 | 2200 | 2400 |
| 2 | Product B | 1500 | 1800 | 1600 |
| 3 | Product C | 1200 | 1400 | 1100 |

* 1. Using R Create a grouped bar chart to visualize the sales of each product for the first quarter. Label the chart elements.
  2. Using R Generate a stacked area chart to represent the overall sales trend for all products over the three months.
  3. Using R Build a table to show the monthly sales data for each product. Label the table elements.
  4. Develop a Tableau dashboard combining the grouped bar chart, stacked area chart, and the table for interactive exploration of sales data.

**17. Customer Demographics Analysis**

|  |  |  |  |
| --- | --- | --- | --- |
| **Customer ID** | **Age** | **Gender** | **Income (in $)** |
| 1 | 28 | Female | 50000 |
| 2 | 35 | Male | 60000 |
| 3 | 42 | Female | 75000 |

1. Using R Create a bar chart to visualize the distribution of customer ages. Label the axes and title the chart.
2. Using R Generate a pie chart to represent the distribution of customers by gender.
3. Using R Build a table to show the demographic information for each customer. Label the table elements.
4. Develop a Tableau dashboard combining the bar chart, pie chart, and the table for interactive exploration of customer demographics.

**18. Employee Performance Analysis**

|  |  |  |  |
| --- | --- | --- | --- |
| **Employee ID** | **Department** | **Years of Service** | **Performance Score** |
| 1 | Sales | 5 | 85 |
| 2 | HR | 3 | 92 |
| 3 | Marketing | 7 | 78 |

1. Using R Create a line chart to visualize the performance trend of employees over time. Label the axes and title the chart.
2. Using R Generate a bar chart showing the distribution of employees across different departments. Label the chart elements.
3. Using R Build a table to display the performance data for each employee. Label the table elements.
4. Develop a Tableau dashboard combining the line chart, bar chart, and the table for interactive exploration of employee performance data.

**19. Product Inventory Management**

|  |  |  |  |
| --- | --- | --- | --- |
| **Product ID** | **Product Name** | **Quantity Available** | **Price (in $)** |
| 1 | Product A | 250 | 20 |
| 2 | Product B | 175 | 15 |
| 3 | Product C | 300 | 18 |

1. Using R Create a bar chart to visualize the quantity of each product in the inventory. Label the axes and title the chart.
2. Using R Generate a stacked bar chart to show the quantity of each product within different product categories.
3. Using R Build a table to show the inventory data for each product. Label the table elements.
4. Develop a Tableau dashboard combining the bar chart, stacked bar chart, and the table for interactive exploration of inventory data.

**20. Survey Responses Analysis**

|  |  |  |  |
| --- | --- | --- | --- |
| **Survey ID** | **Question 1** | **Question 2** | **Question 3** |
| 1 | A | B | C |
| 2 | B | A | D |
| 3 | C | A | B |

1. Using R Create a grouped bar chart to visualize the distribution of answers for Question 1. Label the chart elements.
2. Using R Generate a stacked bar chart to represent the overall distribution of responses for all three questions.
3. Using R Build a table to show the survey response data for each survey. Label the table elements.
4. Develop a Tableau dashboard combining the grouped bar chart, stacked bar chart, and the table for interactive exploration of survey responses.

**21. Stock Analysis**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Stock A** | **Stock B** | **Stock C** |
| 2023-01-01 | 100 | 150 | 120 |
| 2023-01-02 | 105 | 152 | 118 |
| 2023-01-03 | 110 | 148 | 122 |

1. Using R Create a line chart to visualize the stock prices of three companies (Stock A, Stock B, and Stock C) over a specific time period. Label the axes and title the chart.
2. Using R Generate a bar chart showing the daily percentage change in stock prices for Stock A. Label the chart elements.
3. Using R Build a table to display the stock price data for each company over the given period. Label the table elements.
4. Develop a Tableau dashboard combining the line chart, bar chart, and the table for interactive exploration of stock prices.

**22. Sales Data**

|  |  |  |
| --- | --- | --- |
| **Customer ID** | **Age** | **Satisfaction Score** |
| 1 | 28 | 4 |
| 2 | 35 | 5 |
| 3 | 42 | 3 |
| 4 | 30 | 4 |
| 5 | 45 | 5 |

1. a.In R, create a histogram to visualize the distribution of customer ages. Label the axes and title the chart.
2. In R, generate a pie chart to represent the distribution of overall customer satisfaction scores. Include labels.
3. In Tableau, build a stacked bar chart to visualize the distribution of customer satisfaction scores by age group.
4. In R, perform sentiment analysis on open-ended customer feedback and create a word cloud visualization.

**23. Time Series Analysis**

|  |  |
| --- | --- |
| **Month** | **Sales (in $)** |
| January | 15000 |
| February | 18000 |
| March | 22000 |
| April | 20000 |
| May | 23000 |

1. In R, create a time series line chart to visualize the trend in monthly sales. Label the axes and title the chart.
2. In R, generate a scatter plot to analyse the relationship between advertising budget and monthly sales. Explain any insights.
3. In Tableau, build a dashboard combining a line chart showing sales trend and a pie chart displaying the distribution of sales across products.
4. In R, create an autocorrelation plot to identify seasonality in the time series data.

**24. Employee Performance Analysis**

|  |  |  |  |
| --- | --- | --- | --- |
| **Employee ID** | **Department** | **Years of Service** | **Performance Score** |
| 1 | Sales | 5 | 85 |
| 2 | HR | 3 | 92 |
| 3 | Marketing | 7 | 78 |
| 4 | Sales | 4 | 90 |
| 5 | HR | 2 | 76 |

1. In R, create a bar chart to visualize the distribution of employees across different departments. Label the chart elements.
2. In R, generate a line chart to visualize the performance trend of employees over time. Label the axes and title the chart.
3. In Tableau, build a dashboard combining a bar chart showing department distribution and a scatter plot displaying the relationship between years of service and performance scores.
4. In R, develop a table showing the performance data for each employee. Label the table elements.

**25. Product Inventory Management**

|  |  |  |
| --- | --- | --- |
| **Product ID** | **Product Name** | **Quantity Available** |
| 1 | Product A | 250 |
| 2 | Product B | 175 |
| 3 | Product C | 300 |
| 4 | Product D | 200 |
| 5 | Product E | 220 |

1. In R, create a bar chart to visualize the quantity of each product in the inventory. Label the axes and title the chart.
2. In R, generate a stacked bar chart to show the quantity of each product within different product categories.
3. In Tableau, build a dashboard combining the bar chart and stacked bar chart for interactive exploration of inventory data.
4. In R, create a scatter plot to explore the relationship between product price and quantity available. Explain any insights.

**26. Website Traffic Analysis**

|  |  |  |
| --- | --- | --- |
| **Date** | **Page Views** | **Click-through Rate** |
| 2023-01-01 | 1500 | 2.3% |
| 2023-01-02 | 1600 | 2.7% |
| 2023-01-03 | 1400 | 2.0% |
| 2023-01-04 | 1650 | 2.4% |
| 2023-01-05 | 1800 | 2.6% |

1. In Tableau, create a line chart to visualize the trend in page views over time. Label the axes and title the chart.
2. In R, generate a bar chart to show the top N days with the highest click-through rates. Label the chart elements.
3. In R, build a stacked area chart to display the distribution of user interactions (likes, shares, comments) on the website.
4. In Tableau, create a dashboard with an interactive map showing traffic sources and a bar chart displaying page views by source.

**27. Employee Sales Data**

|  |  |
| --- | --- |
| Employee | Sales (in dollars) |
| John | 5000 |
| Alice | 6200 |
| Bob | 4500 |
| Sarah | 7400 |

* 1. Using R Create a line chart to visualize the monthly sales. Label the axes and tit the chart appropriately.
  2. Using R Generate a bar chart to display the top-selling products for the year. Label the chart elements.
  3. Using R Develop a scatter plot to explore the relationship between advertising budget and monthly sales. Explain the insights drawn from the scatter plot.
  4. Using Tableau Build an interactive dashboard combining the line chart and bar chart to allow users to explore sales data interactively.

**28. Weather Data**

|  |  |  |
| --- | --- | --- |
| Date | Temperature (°C) | Precipitation (mm) |
| 2023-01-01 | 12 | 0.5 |
| 2023-01-02 | 9 | 2.0 |
| 2023-01-03 | 15 | 0.0 |
| 2023-01-04 | 8 | 5.0 |

1. Using R Create a map chart to visualize the distribution of temperature on a geographic map. Label the map elements.
2. Using R Generate a scatter plot to explore the relationship between average temperature and precipitation. Explain any insights.
3. Using R Build a table to display the weather data for each date. Label the table elements.
4. Develop a Tableau dashboard combining the map chart, scatter plot, and the table for interactive exploration of weather data.

**29. Product Inventory**

|  |  |  |
| --- | --- | --- |
| Product | Quantity | Price (USD) |
| Widget A | 100 | 10.00 |
| Widget B | 75 | 15.00 |
| Widget C | 120 | 8.50 |
| Widget D | 50 | 20.00 |

1. Using R Create a bar chart to visualize the quantity of each product in the inventory. Label the axes and title the chart.
2. Using R Generate a stacked bar chart to show the quantity of each product within different product categories.
3. Using R Build a table to show the inventory data for each product. Label the table elements.
4. Develop a Tableau dashboard combining the bar chart, stacked bar chart, and the table for interactive exploration of inventory data.

**30. Student Exam Scores**

|  |  |  |  |
| --- | --- | --- | --- |
| Student | Math | Science | History |
| Student A | 85 | 92 | 78 |
| Student B | 76 | 88 | 89 |
| Student C | 92 | 79 | 87 |
| Student D | 88 | 95 | 82 |

1. Using R Create a bar chart to visualize the marks of each student.
2. Using R Generate a stacked bar chart to show different subject status.
3. Using R Build a scatter plot to explore the relationship between maths subject and history subject
4. Develop a Tableau dashboard with the pie chart to visualize the distribution of students by grade level.

**31. Customer Feedback**

|  |  |  |
| --- | --- | --- |
| Customer | Rating | Feedback |
| Customer 1 | 4 | "Great service!" |
| Customer 2 | 3 | "Decent but could improve." |
| Customer 3 | 5 | "Excellent experience!" |
| Customer 4 | 2 | "Not satisfied at all." |

1. Using R Create a histogram to represent the distribution of customer ratings. Label the axes and title the chart.
2. Using R Generate a pie chart to display the overall distribution of customer rating. Include labels.
3. Using R Build a stacked bar chart to visualize the distribution of feedback by customer rating
4. In Tableau, develop a word cloud from open-ended customer feedback to identify prevalent customer sentiments.

**32. Product Inventory**

|  |  |  |  |
| --- | --- | --- | --- |
| Product | Category | Quantity | Price (USD) |
| Laptop A | Electronics | 50 | 800.00 |
| Phone B | Electronics | 75 | 500.00 |
| Chair C | Furniture | 120 | 50.00 |
| Book D | Books | 200 | 10.00 |

1. Using R Create a bar chart to visualize the quantity of each product in the inventory. Label the axes and title the chart.
2. Using R Generate a stacked bar chart to show the quantity of each product within different product categories.
3. Using R Build a scatter plot to explore the relationship between product price and quantity available. Explain the findings.
4. Develop a Tableau dashboard with the bar chart and stacked bar chart to allow users to interact with the data.

**33. Employee Demographics**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Employee | Age | Gender | Department | Salary (USD) |
| John | 32 | Male | HR | 60000 |
| Alice | 28 | Female | Sales | 70000 |
| Bob | 35 | Male | IT | 75000 |
| Sarah | 29 | Female | Finance | 68000 |

1. Using R Create a bar chart to visualize the distribution of customer ages. Label the axes and title the chart.
2. Using R Generate a pie chart to represent the distribution of customers by gender.
3. Using R Build a table to show the demographic information for each customer. Label the table elements.
4. Develop a Tableau dashboard combining the bar chart, pie chart, and the table for interactive exploration of customer demographics.

**34. Customer Orders**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Order ID | Customer Name | Product | Quantity | Price |
| 2001 | John | Widget X | 10 | $5 |
| 2002 | Alice | Widget Y | 5 | $8 |
| 2003 | Bob | Widget X | 8 | $5 |
| 2004 | Sarah | Widget Z | 12 | $7 |

1. In R, create a histogram to visualize the distribution of quantity of products. Label the axes and title the chart.
2. In R, generate a pie chart to represent the distribution of overall quantity and price Include labels.
3. In Tableau, build a stacked bar chart to visualize the distribution of quantity by price.
4. In R, perform sentiment analysis on open-ended customer feedback and create a word cloud visualization.

**35. Student Attendance**

|  |  |  |
| --- | --- | --- |
| Student | Class Date | Attendance |
| Student A | 2023-01-01 | Present |
| Student B | 2023-01-01 | Absent |
| Student C | 2023-01-02 | Present |
| Student D | 2023-01-02 | Present |

1. Using R Create a bar chart to visualize the attendance of each student.
2. Using R Generate a stacked bar chart to show most recent attendance status.
3. Using R Build a scatter plot to explore the relationship between class date and attendance
4. Develop a Tableau dashboard with the pie chart to visualize the distribution of students by grade level.

**36. Sales by Region**

|  |  |  |
| --- | --- | --- |
| Region | Month | Sales (USD) |
| North | Jan | 5000 |
| North | Feb | 6200 |
| South | Jan | 4800 |
| South | Feb | 5600 |

1. Using R Create a grouped bar chart to visualize the sales of each product for the first quarter. Label the chart elements.
2. Using R Generate a stacked area chart to represent the overall sales trend for all products over the three months.
3. Using R Build a table to show the monthly sales data for each product. Label the table elements.
4. Develop a Tableau dashboard combining the grouped bar chart, stacked area chart, and the table for interactive exploration of sales data.

**37. Customer Purchases**

|  |  |  |  |
| --- | --- | --- | --- |
| Customer | Product | Quantity | Price (USD) |
| Customer A | Widget X | 5 | 10.00 |
| Customer B | Widget Y | 3 | 15.00 |
| Customer A | Widget Z | 2 | 8.50 |
| Customer C | Widget X | 4 | 9.00 |

1. In R, create a histogram to visualize the distribution of Quantity. Label the axes and title the chart.
2. In R, generate a pie chart to represent the distribution of overall quantity and price. Include labels.
3. In Tableau, build a stacked bar chart to visualize the distribution overall quantity and price
4. In R, perform sentiment analysis on open-ended customer feedback and create a word cloud visualization.

**38. Student Enrollment**

|  |  |  |
| --- | --- | --- |
| Student | Grade Level | Enrollment Date |
| Student A | 9th | 2023-08-15 |
| Student B | 10th | 2023-09-02 |
| Student C | 11th | 2023-07-20 |
| Student D | 9th | 2023-08-30 |

1. Using R Create a bar chart to visualize the average grade level of the students.
2. Using R Generate a stacked bar chart to show most recent enrollment date.
3. Using R Build a scatter plot to explore the relationship between grade level and enrolment date.
4. Develop a Tableau dashboard with the pie chart to visualize the distribution of students by grade level.

**39. Product Sales by Store**

|  |  |  |  |
| --- | --- | --- | --- |
| Store | Product | Quantity Sold | Revenue (USD) |
| Store A | Widget X | 100 | 500.00 |
| Store B | Widget Y | 75 | 1125.00 |
| Store A | Widget Y | 50 | 750.00 |
| Store C | Widget X | 80 | 400.00 |

1. Using R Create a bar chart to visualize the quantity of each product in the inventory. Label the axes and title the chart.
2. Using R Generate a stacked bar chart to show the quantity of each product within different product categories.
3. Using R Build a scatter plot to explore the relationship between Revenue and quantity available. Explain the findings.
4. Develop a Tableau dashboard with the bar chart and stacked bar chart to allow users to interact with the data.

**40. Employee Training Hours**

|  |  |  |
| --- | --- | --- |
| Employee | Department | Training Hours |
| John | HR | 10 |
| Alice | Sales | 8 |
| Bob | IT | 12 |
| Sarah | Finance | 6 |

1. Using R Create a histogram to represent the distribution of Training Hours. Label the axes and title the chart.
2. Using R Generate a pie chart to display the overall employee Training hours. Include labels.
3. Using R Build a stacked bar chart to visualize the distribution of training hours by Employee
4. In Tableau, develop a word cloud from open-ended customer feedback to identify prevalent customer sentiments.

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