Analysis of Integrated Dataset Report

Analysis of Quantity of Books ordered against delivery status

Analysis of Revenue earned by each book sold
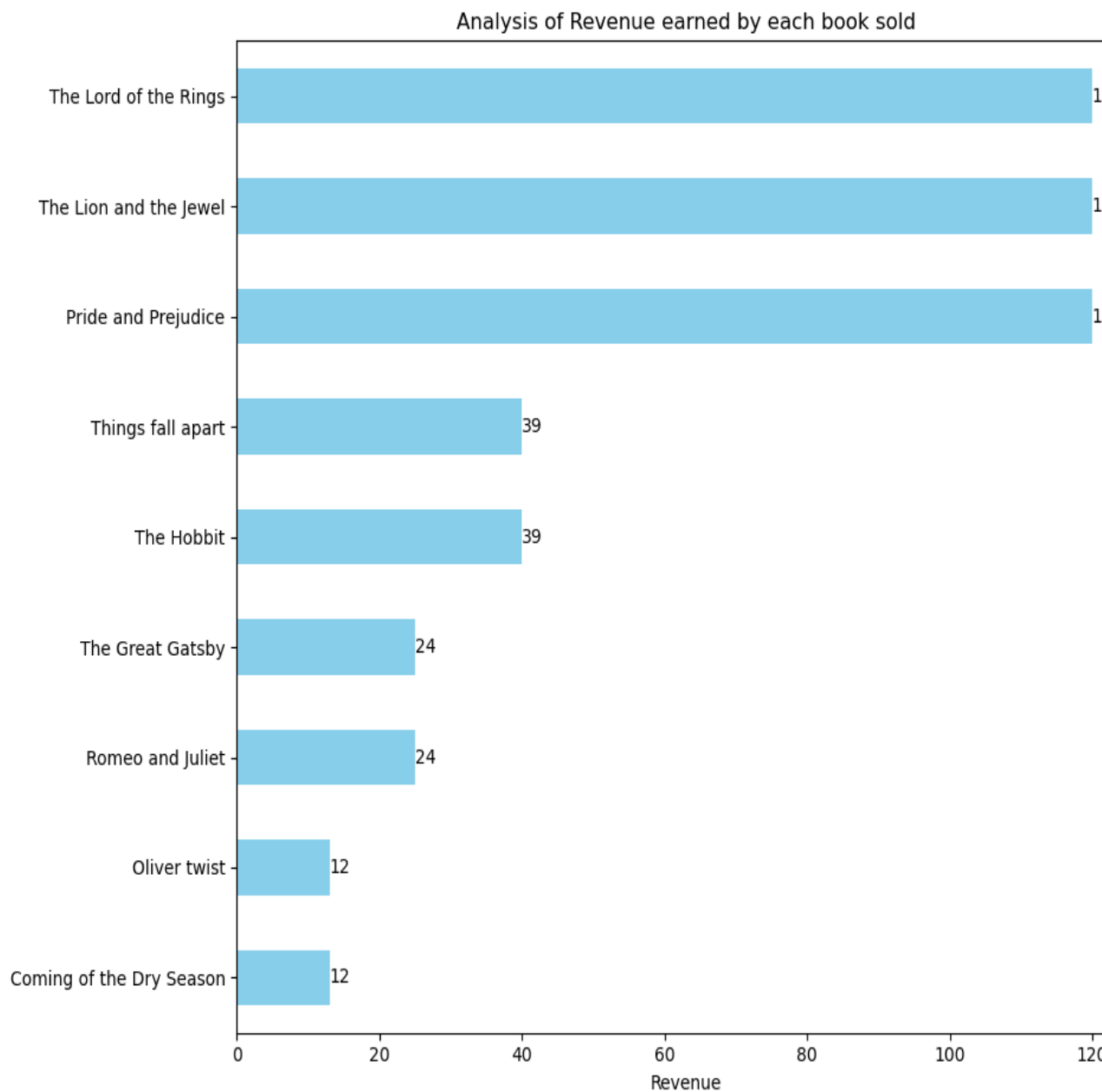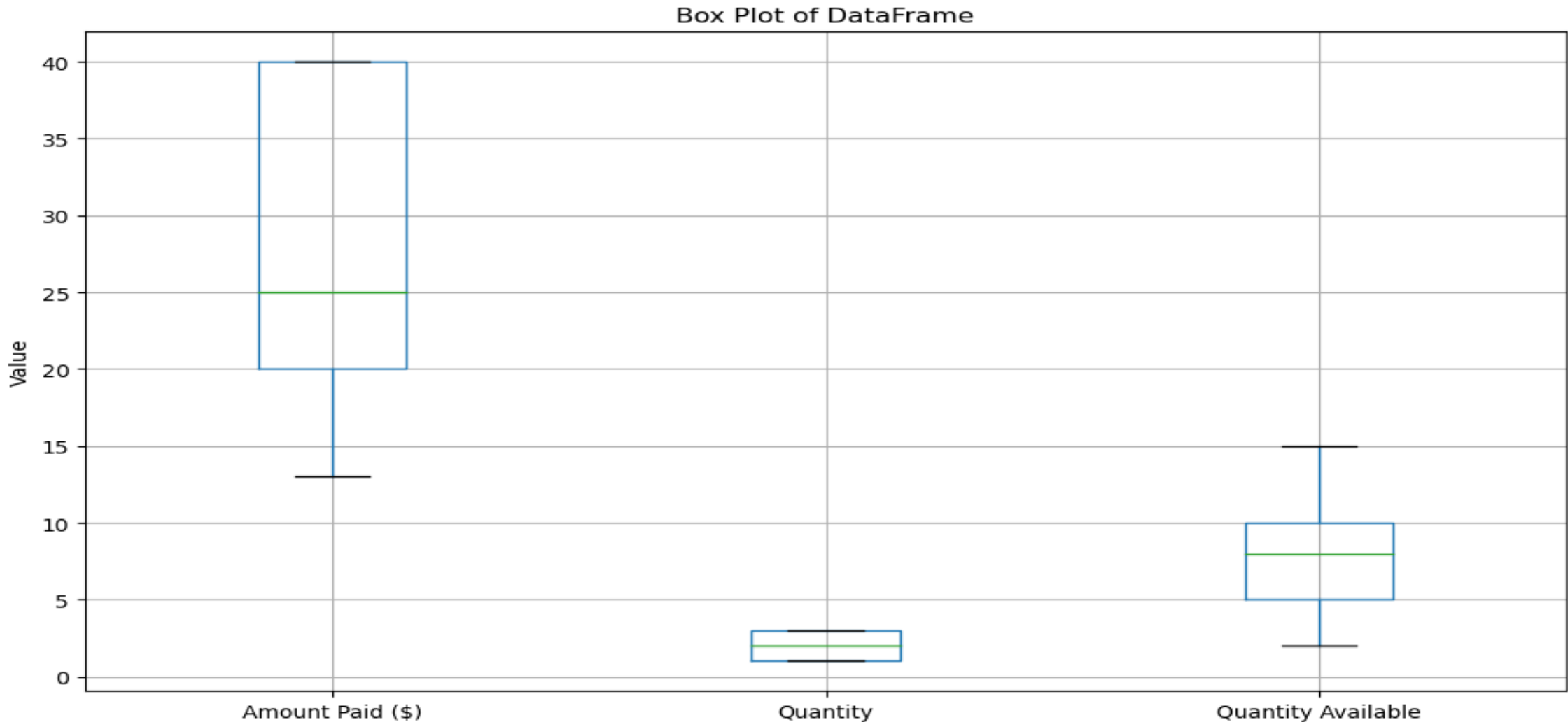
- From the analysis of the delivery status, 41 % have been delivered, 23 % are pending order status and 35 % of the books have been shipped.

- Analysis of Revenue also shows the books that earned revenue from the sale

Analysis of Integrated Dataset Report
Analysis using Box Plot.

Box Plot of DataFrame

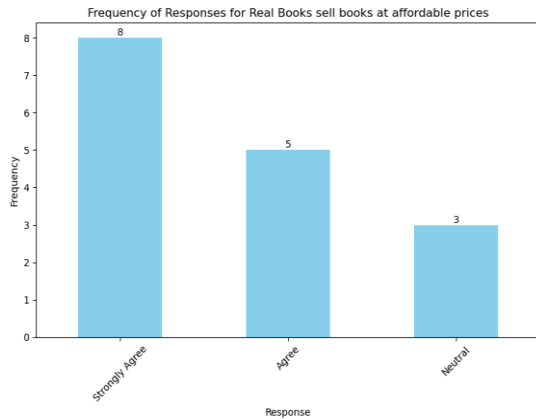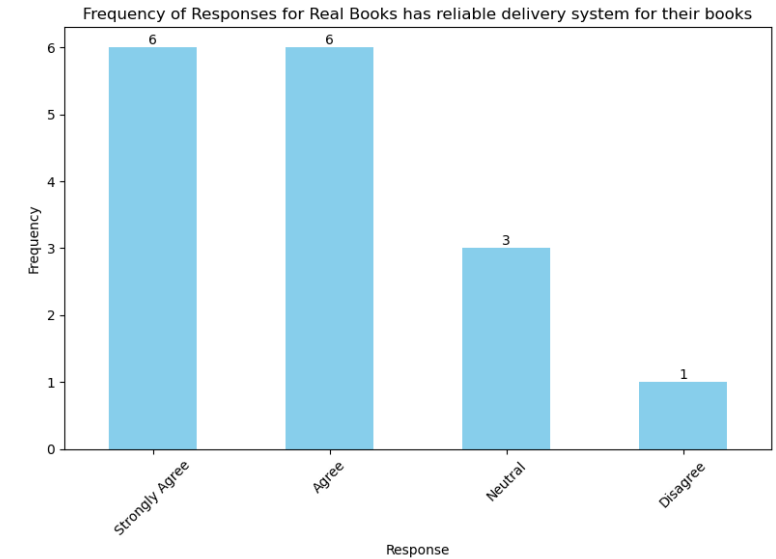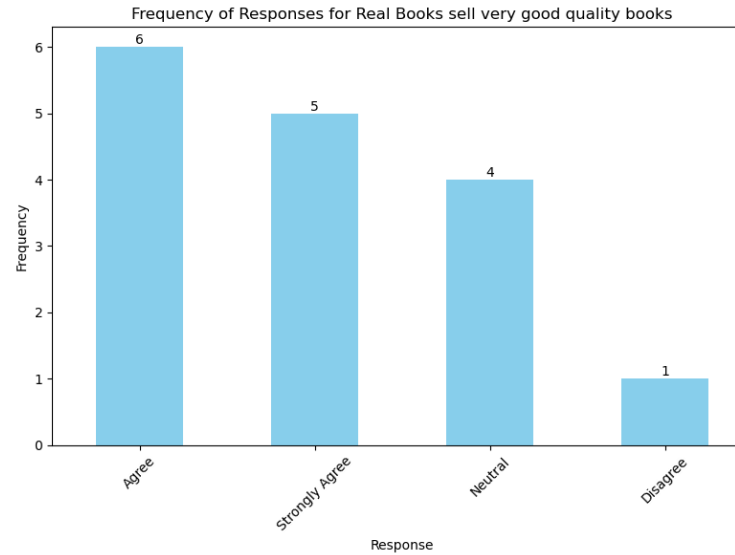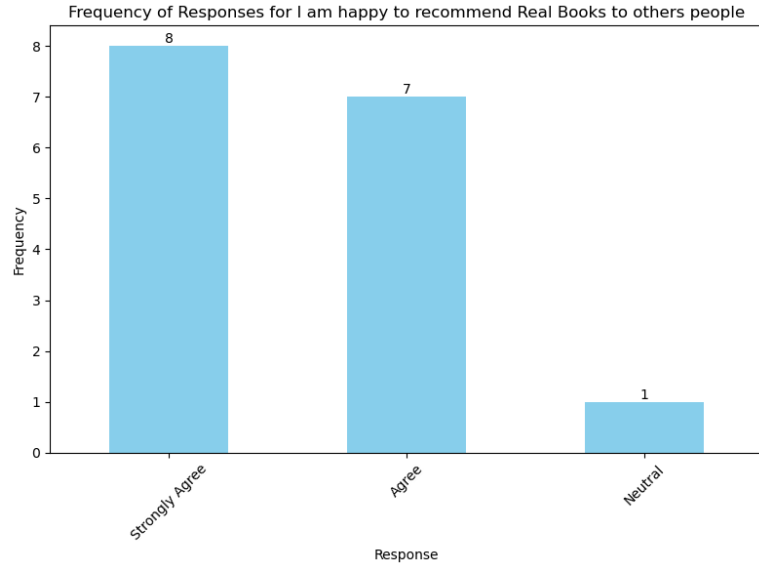# Analysis of Customer survey datasets Report

- ## Descriptive Statistics

	Customer ID	I am happy to recommend Real Books to others people	Real Books sell very good quality books	Real Books has reliable delivery system for their books	Real Books sell books at affordable prices	Staff at Real Books respond quicky to my queries	Staff at Real Books go an extra mile in assisting me everytime I contact them	Real Books has a good rewarding systems for its customers
count	16	16	16	16	16	16	16	16
unique	16	3	4	4	3	3	2	2
top	C001	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
freq	1	8	6	6	8	8	11	8

- There were 16 responses received from the dataset.
- The question on staff as Real Books go an extra mile in assisting me with everything I contact them had a strongly agreed response with 11 responses out of the 16
- On the question of Real books selling very good quality books, the top response was by 6 respondents who gave a response of Agreeing.
- Two questions received only 2 unique responses by the 16 respondents.(Strongly agree and Agree)

Analysis of Customer survey datasets Report

Analysis of Responses Ratings
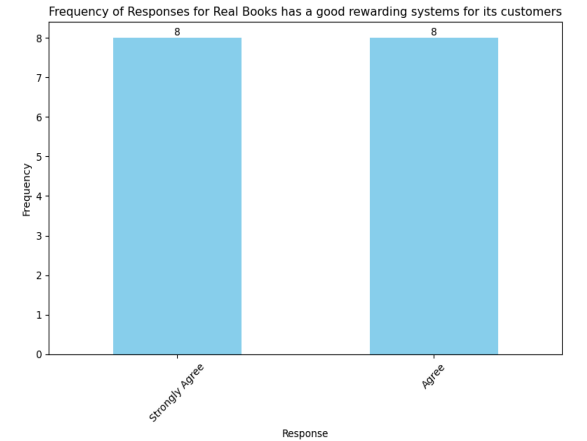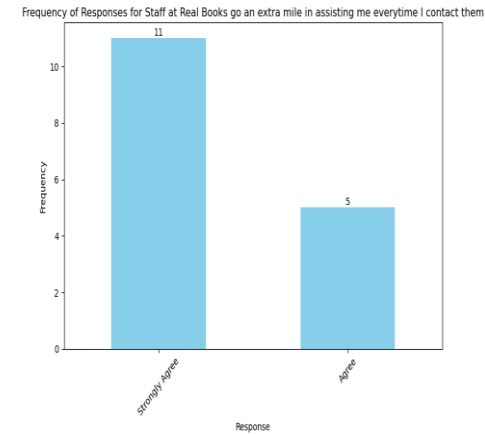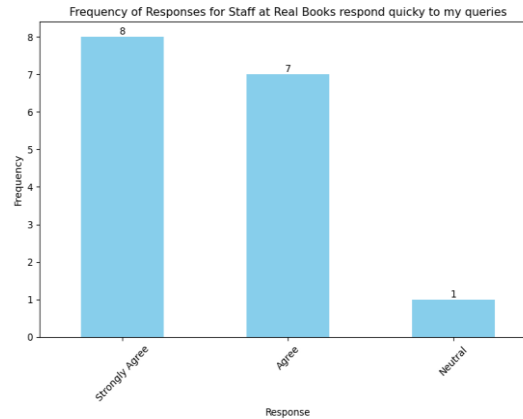
Analysis of Customer survey datasets Report

Summary of Responses

Question	Strongly Agree	Agree	Neutral	Disagree
I am happy to recommend Real Books to others people	50%	44%	6%	
Real Books sell very good quality books	31%	38%	25%	6%
Real Books has reliable delivery system for their books	38%	38%	19%	6%
Real Books sell books at affordable prices	50%	31%	19%	
Staff at Real Books respond quicky to my queries	50%	44%	6%	
Staff at Real Books go an extra mile in assisting me every time I contact them	69%	31%		
Real Books has a good rewarding systems for its customers	50%	50%		

How to Justify Models used in Coming up with the results

- Explain why a particular model was chosen, consider the characteristics of the data, the research question, and the assumptions of the model.

- Assess whether the assumptions of the chosen model hold for the dataset. Examples of the dates when the books were published.

- Evaluate and compare the performance of the model using appropriate metrics such as accuracy, precision, recall, F1-score, R-squared, mean squared error, etc.

- Implement cross-validation techniques such as k-fold cross-validation to assess the generalizability of the model. Split the data into training and testing sets multiple times and evaluate the model's performance across different subsets of data.

- Consider the interpretability of the model and the ease of understanding the results, such as decision trees or linear regression.

- Validate the model's results against external datasets or real-world observations of book sellers if possible, for example checking on the price for each book sold to ensure consistency with the real world.

- Conduct robustness testing by introducing perturbations or variations to the data to assess the stability of the model's predictions. Sensitivity analysis can help identify potential weaknesses or vulnerabilities in the model.

- Seek feedback and validation from domain experts or stakeholders to ensure that the model aligns with domain knowledge and expectations. This can provide valuable insights and enhance the credibility of the results which have been obtained.

Recommendations to Retain Customers

- Personalized Communication: Based on the survey responses, tailor marketing messages, offers, and recommendations to individual customers.

- Proactive Customer Feedback and Improvement: Improve on the feedback received on Neutral and disagreed feedback to target customer satisfaction and happiness.

- Exceptional Customer Service: Train and empower customer Real book staff to address inquiries, resolve issues, and provide assistance promptly and effectively.

- Continuous Engagement and Relationship Building: This is achieved when the customer requests assistance and the staff at Real Book goes the extra mile to assist them.

- Loyalty Programs and Incentives: Put in place more customer rewarding programs in the system for customers ordering books

- Ensuring timely delivery: This is to shorten the timeframe for the books that have been ordered by the customer and the ones that are pending status.

How to deal with Inconsistencies at Data Cleaning

- **Missing Values:** I checked to ensure that the rows with missing values in Customers, Books, and ordered books have been removed to make sure that the data gives accurate values during analysis.

- **Duplicate values:** I checked for duplicate records in the dataset and removed any if they existed.

- **Date Formatting and Data types**: I ensured that the data types were recorded in the right format example in the datasets with date values, I ensured that they were captured in the right format

- **Inconsistent values**: I checked for the values to ensure that they have been captured correctly, for example changing the date value entered in the Title column, The author name and book title were also interchanged under the sheet of Books

- **Outliers**: I also checked for outliers if present in the dataset and removed them accordingly.