Analytics & Business Intelligence

Module Code: COM517

Portfolio: Critical Report for Weekly Tasks & Personal Learning Records

Assessment Number: AE1 (Resit)

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Submission Date: 10 DEC2025

Introduction

This report explains what I learned each week in the Analytics and Business Intelligence module. Each week we did a different task, and I describe what the task was, how I did it, and what I learned from it. The aim of this report is to show how my understanding improved as the module went on.

During the term, we looked at topics like organisation theories, numbers and patterns, types of data, data science jobs, and how to use simple tools for analysing and showing data. By doing the weekly tasks, I began to see how data is used in real life and why it is important in business. These activities also helped me build confidence when working with information and creating basic charts or reports.

Overall, this report shows my learning journey through the module and how the tasks helped me understand the main ideas of analytics and business intelligence.

WEEK 1 – Organisation Theories and Concepts

Topic Overview
In Week 1, we learned about different organisation theories and how they explain the way businesses and other organisations work. Some of the ideas included things like hierarchy, structure, communication, and how tasks are shared between people. These theories help us understand why organisations are designed in certain ways and how they manage people and processes.

What the Task Asked Me to Do
The task for this week asked me to look at a few organisation theories and explain how they could be used in real situations. I needed to think about what each theory focuses on and match it to an example of an organisation or workplace.

How I Completed the Task
To complete the work, I read through the notes and slides on SOL and made short summaries of each theory. Then I thought about real-life places I know, such as schools, shops, or companies, and chose examples where a specific theory made sense. This helped me connect the ideas to something familiar.

What I Learned
From this week, I learned that organisations do not all work the same way. Each theory has strengths depending on what the organisation needs, such as clear rules, teamwork, or flexibility.

Understanding these ideas helped me see how structure affects decision-making and communication.

Real-World Link

This is useful in real life because almost every workplace uses some form of organisational structure. Knowing these theories helps explain why some companies run smoothly while others struggle with communication or management.

WEEK 2 – Numbers, Patterns and Word Problems

In Week 2, we focused on numbers, sequences and word problems, and how patterns can help us understand information. The task asked me to solve different number problems, including spotting patterns in sequences and working through word problems step by step. To complete the work, I looked at examples from the lesson and tried to identify the rule behind each sequence, such as adding, multiplying or using the previous numbers to find the next one. For the word problems, I broke the question down and chose the operation that made the most sense. This week helped me build more confidence with problem-solving because I learned that patterns can be used to make predictions and explain changes. It also showed me that taking my time to understand the question makes word problems easier. I realised that these skills are useful in real life, especially in areas like budgeting, finance, planning and business forecasting.

WEEK 3 – Organisational Data and Consumption

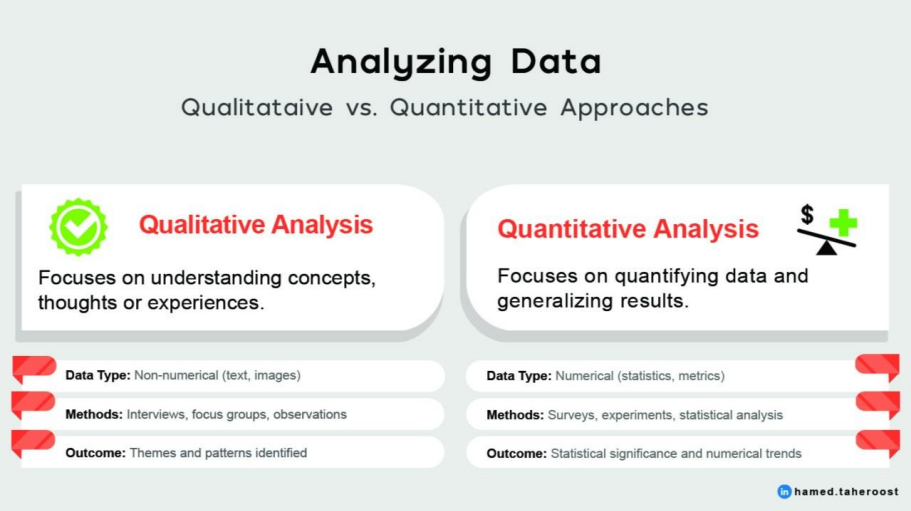
In Week 3, we learned about organisational data and how different types of information are used inside businesses. The task asked me to look at examples of data such as customer records, sales figures and staff details, and explain how organisations use this information. I used the notes on SOL to understand the different categories of data and the data pyramid. Completing the task helped me see how companies rely on data for planning, reporting and making decisions. I also learned why good data management is important for keeping information accurate and useful.

WEEK 4 – Data Science and the Data Scientist Role

In Week 4, we explored what data science is and what data scientists do. The task asked me to research the skills needed for a data scientist job and find examples of job roles. I looked at job listings online and noted common skills such as Python, statistics, communication and data analysis. I also looked at typical salary ranges to understand how important the role is. This week helped me understand that data scientists work with large amounts of data to find patterns and support business decisions. It also showed me that the role requires both technical skills and the ability to explain results clearly.

WEEK 5 – Data Handling: Qualitative and Quantitative Data

In Week 5, we focused on understanding different types of data, especially qualitative and quantitative data, and how they are used in data analysis. The task required me to work with a dataset and identify whether each column contained categorical, numerical, discrete or continuous data. To complete this task, I opened the dataset in Excel and carefully went through each column to identify what type of information it represented, such as customer details, gender, age, products bought, units sold and satisfaction scores. I then added a data type classification to show whether each variable was qualitative or quantitative. After that, I carried out basic statistical calculations, including finding the total number of units sold and the average age and satisfaction score. This helped me understand how raw data can be summarised into useful information. From this week, I learned that identifying the correct type of data is very important because it affects how data should be analysed and which charts can be used later. The dataset and statistical results from this task are shown in **Appendix E**.



LINK

WEEK 6 – Analytical and Visualisation Tools

In Week 6, we focused on using analytical and visualisation tools to present data in a clear and simple way. The task asked me to create a visual chart using a dataset and a suitable tool. To complete this task, I used Excel and pasted the sales data into a table. I then selected the month and sales columns and created a line chart to show how sales changed over time. After creating the chart, I added a title and checked that the labels were clear. This task helped me understand how charts turn numbers into visual information that is easier to understand. I also learned that line charts are useful for showing trends over a period, such as increases or decreases in sales. The chart created for this task is shown in **Appendix F.**

WEEK 7 – Working with Different Types of Data

In Week 7, we worked with different types of data, including demographic, financial and geographical data. The task asked me to use a dataset and understand what each column and value meant in real life. To complete this task, I pasted the dataset into Excel and carefully looked at each column, such as city, population, average income and region. This helped me understand the meaning behind the data before analysing it. I also added a notes column to describe each area in a simple way, such as whether it had a high population or medium income. This week helped me realise that understanding what data represents is very important, because analysing data without knowing its meaning can lead to wrong conclusions. I also learned how different types of data are used in real organisations, for example population data for planning, income data for budgeting and location data for mapping. The dataset and my interpretation of the data are shown in **Appendix G**.

WEEK 8 – Data Visualisation: Charts and Reports

In Week 8, we focused on creating charts and reports to present data in a clear and easy-to-understand way. The task asked me to use a dataset and create a suitable chart to show the results. To complete this task, I pasted the product sales data into Excel and selected the relevant columns. I then created a bar chart to compare the sales of different products. After creating the chart, I added a clear title and checked that the labels were easy to read. This helped me understand how charts turn numbers into visual information that is easier to understand than raw data. I also learned that bar charts are very useful for comparing different categories, such as product sales. This week showed me how visual reports support decision-making in real businesses. The chart created for this task is shown in Appendix H.

CONCLUSION

Overall, this module helped me understand the basic ideas of analytics and business intelligence in a clear and practical way. Each weekly task supported my learning step by step, starting from organisation theories and number patterns, and moving towards working with real data, using tools, and creating charts. I learned how to identify different types of data, carry out simple analysis, and present information using visual tools like Excel charts.

The practical tasks helped me understand how data is used in real organisations for planning, reporting and decision-making. I also gained confidence in interpreting datasets, creating charts and explaining what the results mean. This Personal Learning Record shows my progress throughout the module and how my skills and understanding developed over time. The knowledge gained from this module will be useful for my future studies and for any career that involves working with data or making decisions based on information.

REFERENCE

Marr, B. (2016) *Big Data in Practice: How 45 Successful Companies Used Big Data Analytics to Deliver Extraordinary Results*. Chichester: Wiley.

Provost, F. and Fawcett, T. (2013) *Data Science for Business*. Sebastopol: O'Reilly Media.

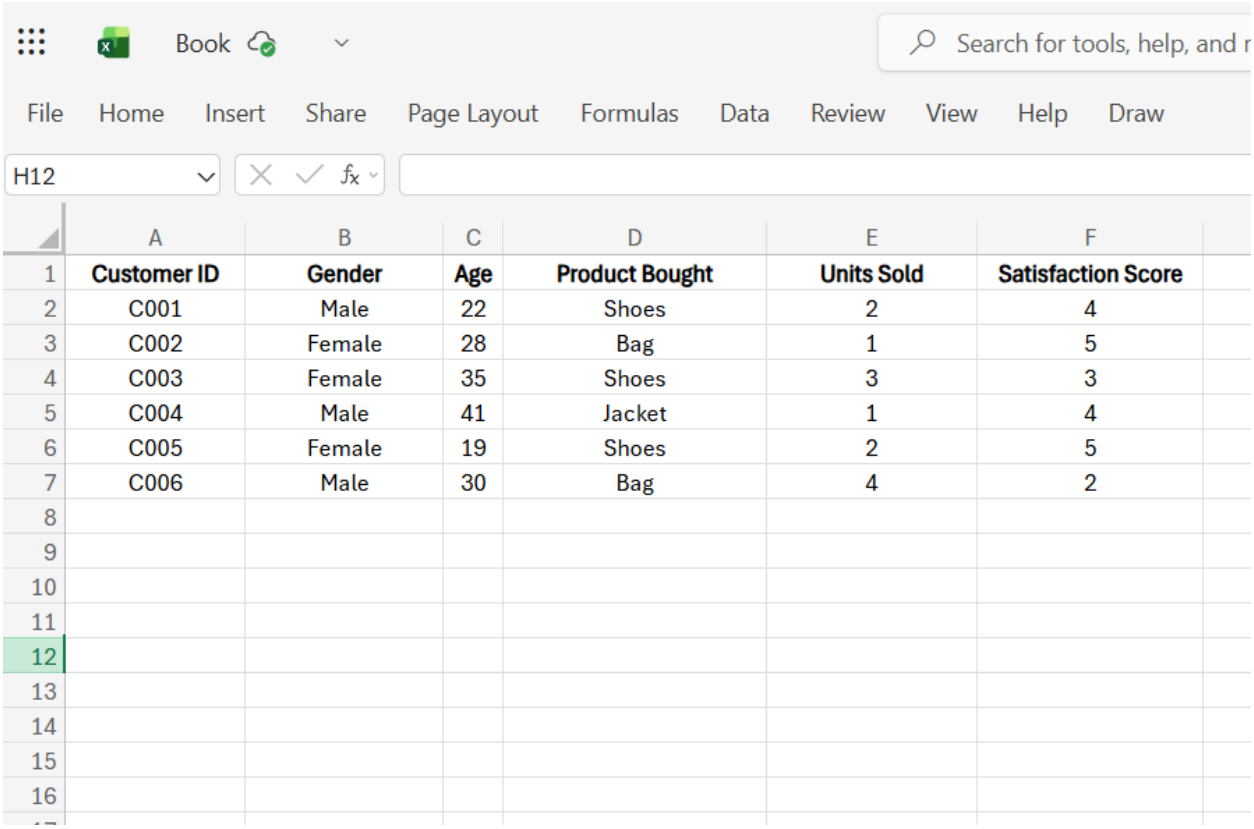
Microsoft (2024) *Create charts in Excel*. Available at: Microsoft Support (Accessed: 10 December 2025).

Tableau (2024) *Data visualisation basics*. Available at: Tableau Official Website (Accessed: 10 December 2025).

Solent University (2025) *Analytics and Business Intelligence (COM517) Module Materials*. Solent Online Learning (Accessed: 10 December 2025).

Appendix

WEEK – 05



	A	B	C	D	E	F
1	**Customer ID**	**Gender**	**Age**	**Product Bought**	**Units Sold**	**Satisfaction Score**
2	C001	Male	22	Shoes	2	4
3	C002	Female	28	Bag	1	5
4	C003	Female	35	Shoes	3	3
5	C004	Male	41	Jacket	1	4
6	C005	Female	19	Shoes	2	5
7	C006	Male	30	Bag	4	2
8						
9						
10						
11						
12						
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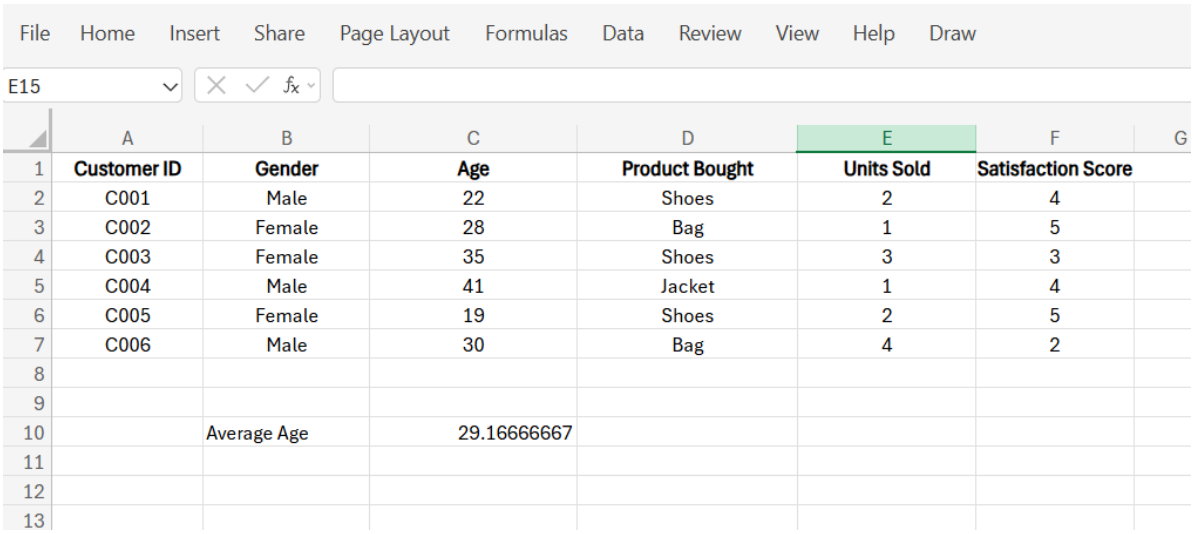
14						
15						
16						

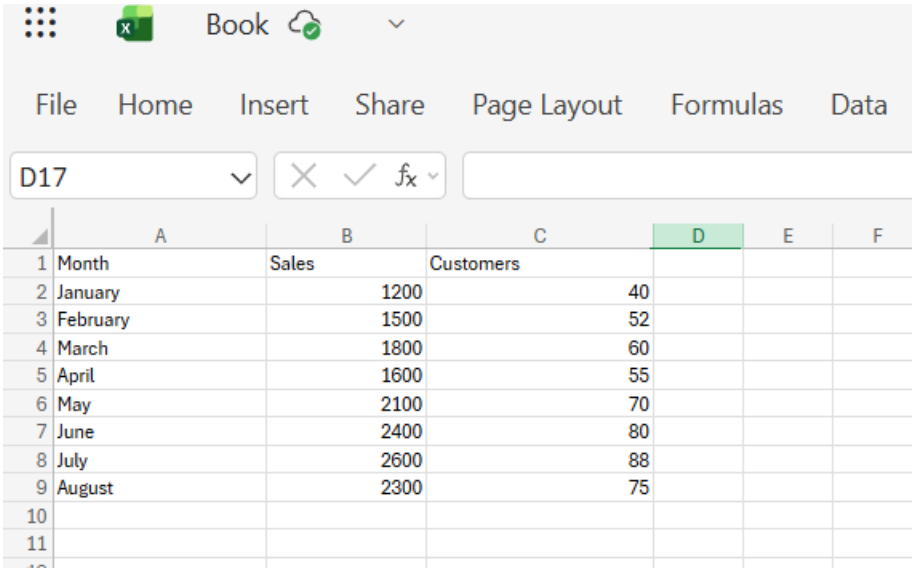
Column Name	Data Type
CustomerID	Qualitative (Categorical)
Gender	Qualitative (Categorical)
Age	Quantitative
ProductBought	Qualitative (Categorical)
UnitsSold	Quantitative (Discrete)
SatisfactionScore	Quantitative (Discrete)



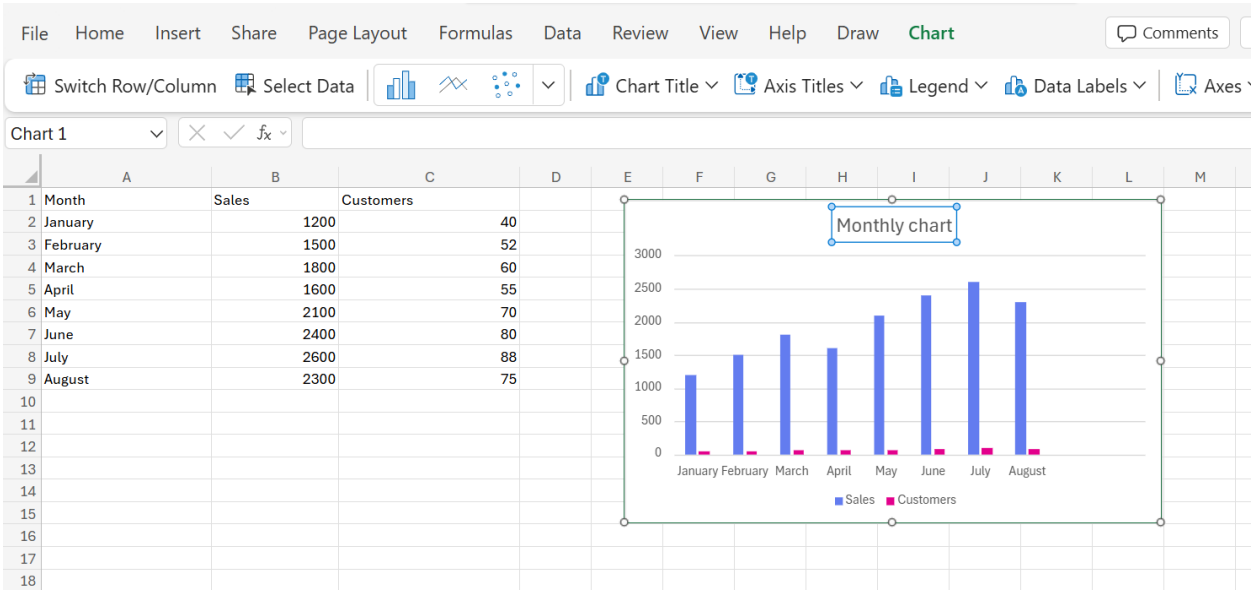
Customer ID	Gender	Age	Product Bought	Units Sold	Satisfaction Score
C001	Male	22	Shoes	2	4
C002	Female	28	Bag	1	5
C003	Female	35	Shoes	3	3
C004	Male	41	Jacket	1	4
C005	Female	19	Shoes	2	5
C006	Male	30	Bag	4	2
	Average Age	29.16666667			

Appendix E

WEEK – 06



	A	B	C	D	E	F
1	Month	Sales	Customers			
2	January	1200	40			
3	February	1500	52			
4	March	1800	60			
5	April	1600	55			
6	May	2100	70			
7	June	2400	80			
8	July	2600	88			
9	August	2300	75			
10						
11						

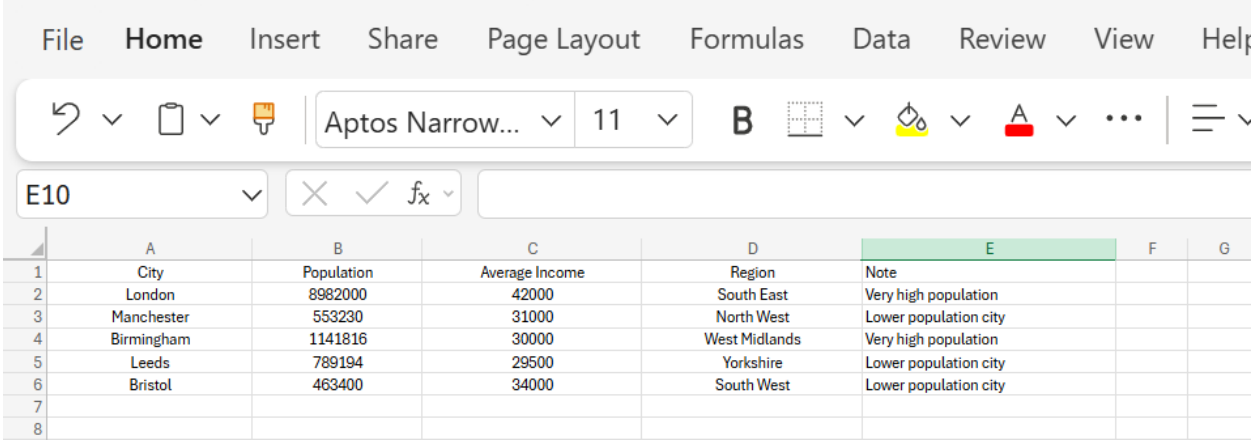


	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Month	Sales	Customers										
2	January	1200	40										
3	February	1500	52										
4	March	1800	60										
5	April	1600	55										
6	May	2100	70										
7	June	2400	80										
8	July	2600	88										
9	August	2300	75										
10													
11													
12													
13													
14													
15													
16													
17													
18													

	A	B	C	D	E	F
1	**Customer ID**	**Gender**	**Age**	**Product Bought**	**Units Sold**	**Satisfaction Score**
2	C001	Male	22	Shoes	2	4
3	C002	Female	28	Bag	1	5
4	C003	Female	35	Shoes	3	3
5	C004	Male	41	Jacket	1	4
6	C005	Female	19	Shoes	2	5
7	C006	Male	30	Bag	4	2
8						
9					Average Satisfaction Score	3.833333333
10						

Appendix F

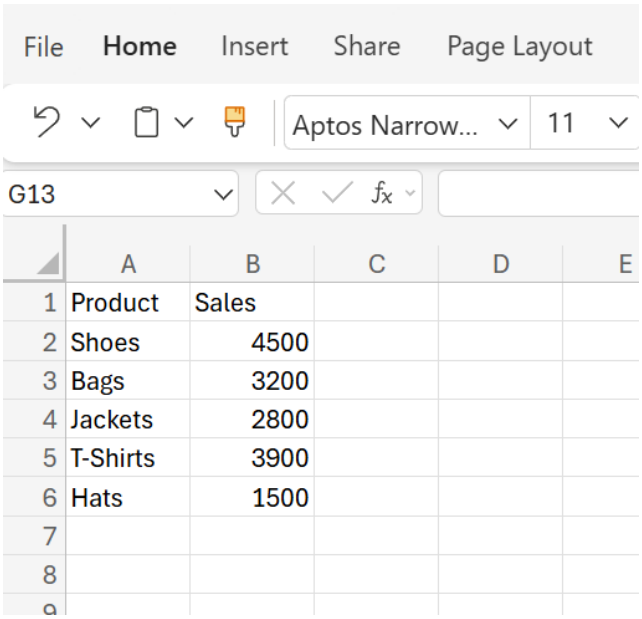
WEEK – 07



	A	B	C	D	E	F	G
1	City	Population	Average Income	Region	Note		
2	London	8982000	42000	South East	Very high population		
3	Manchester	553230	31000	North West	Lower population city		
4	Birmingham	1141816	30000	West Midlands	Very high population		
5	Leeds	789194	29500	Yorkshire	Lower population city		
6	Bristol	463400	34000	South West	Lower population city		
7							
8							

Appendix G

WEEK – 08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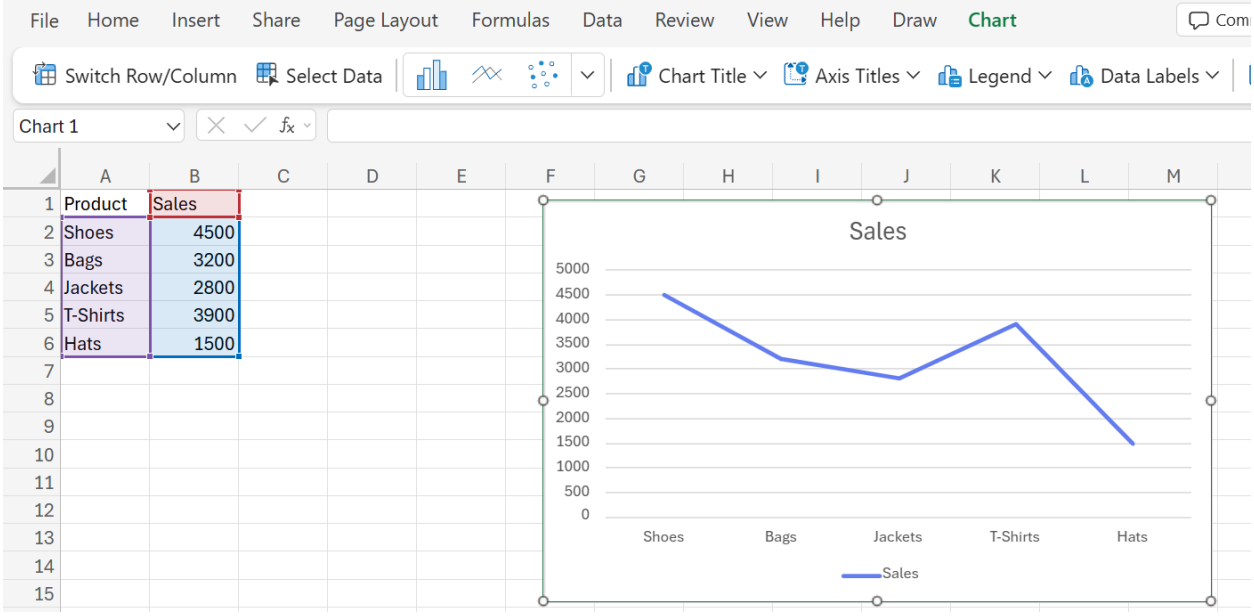
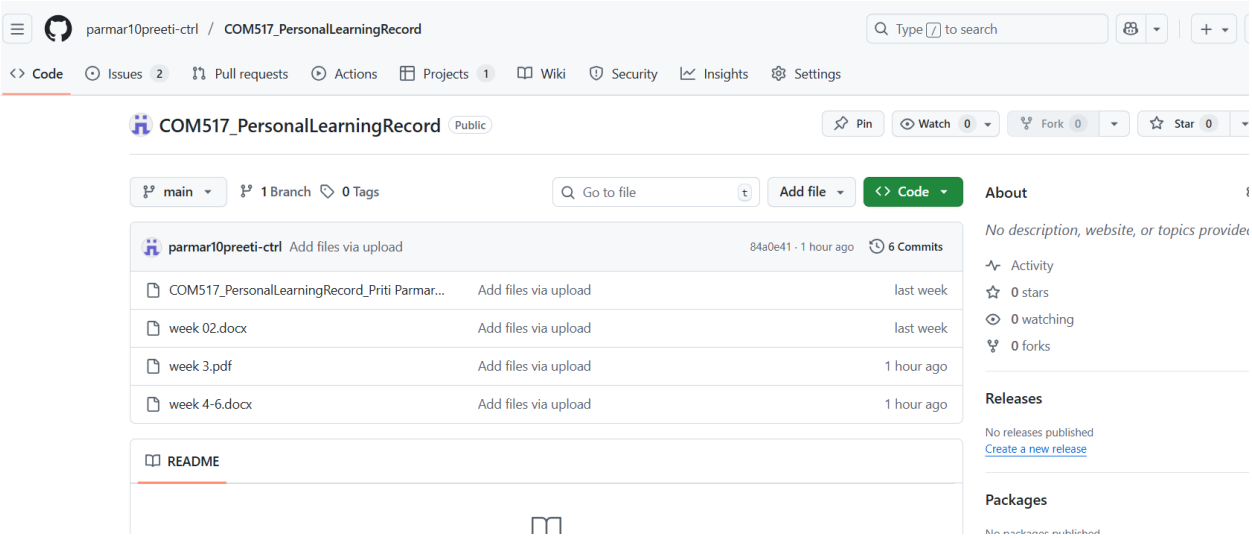
G13
A
B
C
D
E
1 Product Sales
2 Shoes 4500
3 Bags 3200
4 Jackets 2800
5 T-Shirts 3900
6 Hats 1500
7
8

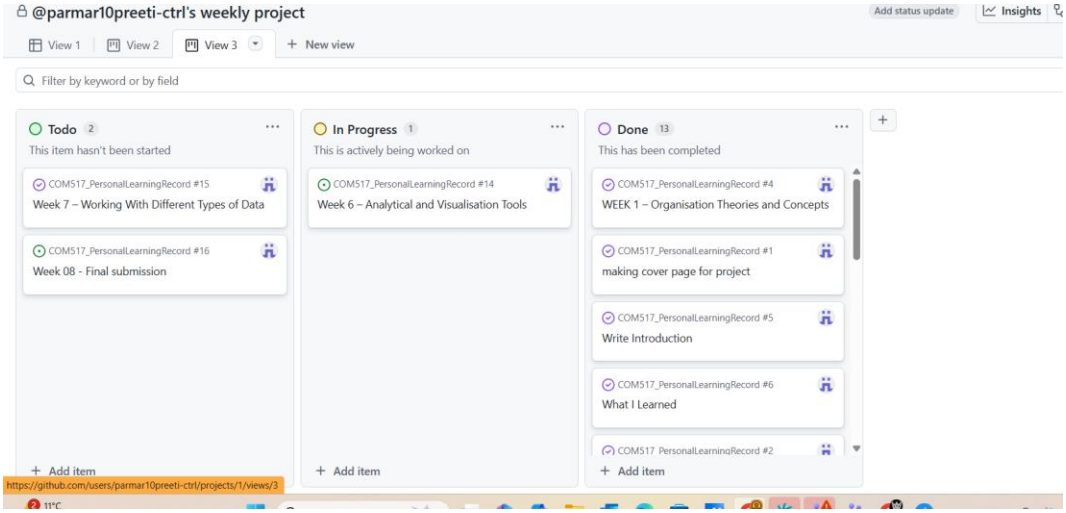


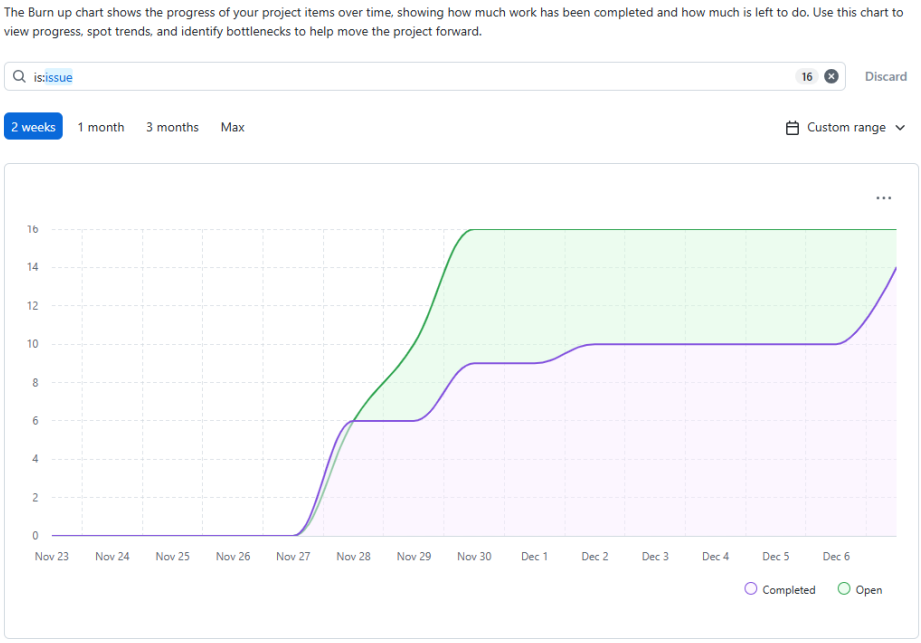
Appendix H

GIT PROJECT MANAGE



LINK


@parmar10preeti-ctrl's weekly project
Add status update
Insights
View 1
View 2
View 3
New view
Filter by keyword or by field
Todo 2
This item hasn't been started
COM517_PersonalLearningRecord #15
Week 7 – Working With Different Types of Data
COM517_PersonalLearningRecord #16
Week 08 - Final submission
Add item
In Progress 1
This is actively being worked on
COM517_PersonalLearningRecord #14
Week 6 – Analytical and Visualisation Tools
Add item
Done 13
This has been completed
COM517_PersonalLearningRecord #4
WEEK 1 – Organisation Theories and Concepts
COM517_PersonalLearningRecord #1
making cover page for project
COM517_PersonalLearningRecord #5
Write Introduction
COM517_PersonalLearningRecord #6
What I Learned
COM517_PersonalLearningRecord #2
Add item
https://github.com/users/parmar10preeti-ctrl/projects/1/views/3


The Burn up chart shows the progress of your project items over time, showing how much work has been completed and how much is left to do. Use this chart to view progress, spot trends, and identify bottlenecks to help move the project forward.
is:issue
16
Discard
2 weeks
1 month
3 months
Max
Custom range
16
14
12
10
8
6
4
2
0
Nov 23
Nov 24
Nov 25
Nov 26
Nov 27
Nov 28
Nov 29
Nov 30
Dec 1
Dec 2
Dec 3
Dec 4
Dec 5
Dec 6
Completed
Open

LINK