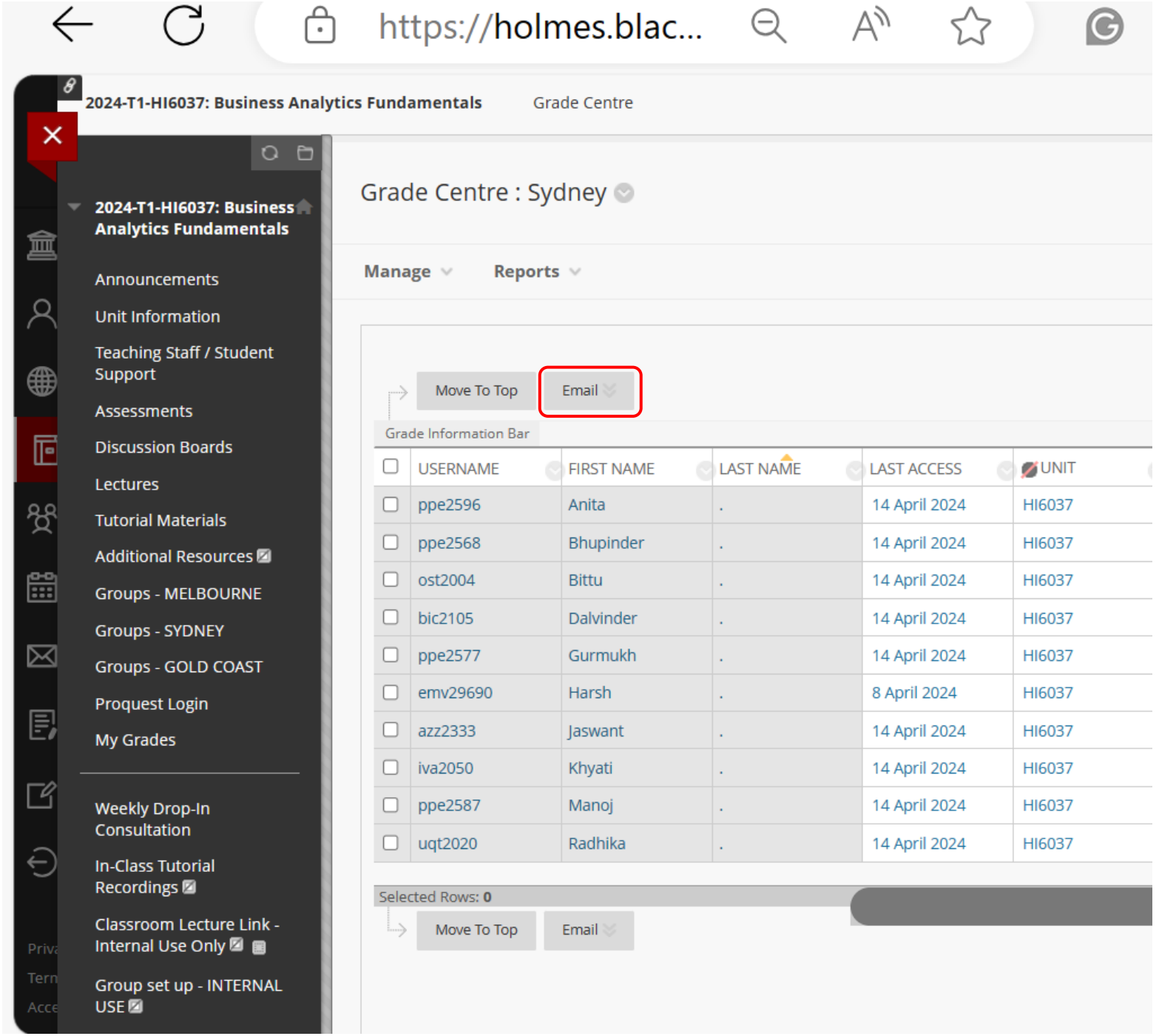
Week 3 – Business Analytics Fundamentals – Sydney Campus

1. Summary of Lecture 2
2. Tutorial Week 3
3. Key assessment dates
4. Attendance & Tutorial Questions - Recognising student participation and engagement specifically identifying those who are most actively involved!

Lecturer/Tutor: Dr. Farshid Keivanian

The tutorial for Week 2 of Business Analytics Fundamentals at the Sydney Campus dives into the practical use of business analytics with an emphasis on PivotTables in Excel. Students will learn how to set up, structure, and utilize PivotTables to analyze and report on business data effectively. The course illustrates these concepts through an example involving "Aussie Retailers Ltd." and how they use transactional data for inventory management and customer service optimization. Key skills taught include data organization, aggregation, dynamic analysis, and data visualization through PivotTables. The tutorial also covers concepts such as drill-up, drill-down, drill-through, and slice and dice for multidimensional reporting.

Check your email now!
Tutorial Week 2 & 3



Key assessment dates: Ask Questions and give me 1 week to reply: FKeivanian@my.holmes.edu.au

Key Assessment Dates

ASSESSMENT	DUE DATE	DUE TIME	LENGTH
Online Quizzes x 4	Refer assessment folder	9.00 pm	15 minutes once test is accessed
Group Case Study	2 June, 2024	11.59 pm	Refer to assignment instructions

ASSESSMENT	DATE	START TIME	DURATION
Final Assessment	TBC	TBC	TBC

Please refer to the assessment folders below for full details regarding submission requirements and times

Online Quizzes Information

ASSESSMENT	QUIZ DATE	QUIZ AVAILABLE
Quiz 1	14 April, 2024	6.00 am – 9.00 pm
Quiz 2	28 April, 2024	6.00 am – 9.00 pm
Quiz 3	12 May, 2024	6.00 am – 9.00 pm
Quiz 4	26 May, 2024	6.00 am – 9.00 pm

Key assessment dates: Ask Questions and give me 1 week to reply: FKeivanian@my.holmes.edu.au

Group Case Study Information

DUE DATE	**2 June, 2024**
DUE TIME	**11.59 pm**

This folder contains information about the **Group Case Study** that forms part of the assessment for this unit.

Information includes **instructions to join a group**, detailed assignment requirements and submission link.

Final Assessment Information

Availability: Item is hidden from students.

This folder contains information about the **Final Assessment** and includes detailed assessment specifications, submission requirements and submission link.

Please note that the assessment and submission link is only available during the period listed above.

The submission link will not be available once the time expires therefore it is strongly recommended you allow yourself sufficient time to complete the assessment prior to the link closing.

If you do not have internet access or if your connection is poor, it is your responsibility to seek out another source such as a public library, internet café, etc., to submit your assessment within the required time.

No late submissions are allowed.

1. Summary of Lecture 2

- In lecture week 2 of the HI6037 Fundamentals of Business Analytics course, the importance of business analytics in driving informed business decisions was emphasized. The lecture outlined the business analytics process, defining it as a continual, iterative exploration of past business performance to drive future business planning. The lecture noted that although abundant information exists, it often doesn't translate into actionable intelligence for decision-makers. This is underscored by a Gartner Research finding from 2007, which noted that only 36% of CEOs believe their management teams use the right information to run their businesses effectively.

1. Summary of Lecture 2: A Practical Example in Australia

- A practical example in the Australian context might be the transformation story of an Australian retail company that utilized business analytics to optimize its inventory management. After consistently facing issues with overstocking and stockouts, the company identified this as a critical business issue. By formulating specific questions around optimal stock levels and examining historical sales data, the company was able to refine its inventory purchase strategy, leading to improved availability of products and cost savings.
- The lecture continued to illustrate how Continental Airlines moved from being unprofitable in the early '90s to a leader in the industry by the mid-'90s, driven by a data-centric approach that offered a single view of the customer and the business. The process of identifying business issues, formulating questions, gathering and analyzing information, and then taking actions based on the insights was explored as a cyclical process contributing to this turnaround.

1. Summary of Lecture 2: A Practical Example in Australia

- In summary, business analytics is crucial for understanding and enhancing business performance. By leveraging data, companies can make informed decisions that lead to improved operations and competitive advantage. The lecture underscored the necessity of aligning the business analytics process with corporate strategy to ensure that actions taken are in service of the broader organizational goals.

2. Tutorial Week 3: Introduction to Business Analytics – Foundational Concepts to Understand

The tutorial week 3 document is centered around an introduction and tutorial for using Microsoft Power BI for data visualization and analysis. It assumes some familiarity with the foundational concepts as it guides through applying them in practical exercises using Power BI. We will be exploring an explanation of each concept with practical examples:

1. Business Analytics: It's the application of skills, technologies, and practices for continuous iterative exploration and investigation of past business performance to gain insight and drive business planning.

Example: An Australian retail company analyzes historical sales data to forecast inventory needs for the upcoming season.

2. Tutorial Week 3: Introduction to Business Analytics – Foundational Concepts to Understand

2. Information vs Intelligence: Differentiating between mere data collection (information) and actionable insights (intelligence). **Example:** An Australian logistics company collects GPS tracking data (information) and uses it to optimize delivery routes (intelligence).

3. Business Analytics Process: Involves steps from identifying issues to evaluating results. **Example:** An Australian healthcare provider uses patient data to identify treatment success rates and areas for improvement.

4. Data Acquisition and Management: Evolution from simple data collection to sophisticated data mining. **Example:** An Australian bank employs advanced data mining techniques to detect fraudulent transactions.

2. Tutorial Week 3: Introduction to Business Analytics – Foundational Concepts to Understand

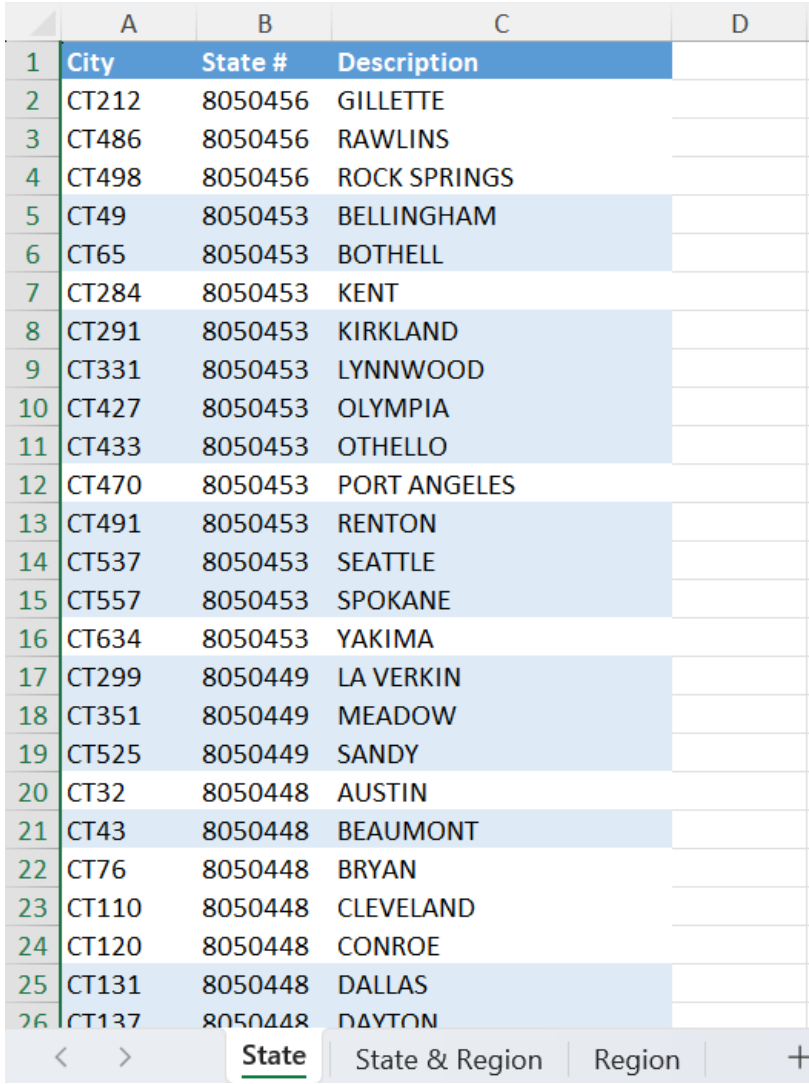
5. OLTP vs OLAP: Knowing the difference between transactional systems (OLTP) and analytical systems (OLAP). Understanding these systems' roles in operational and analytical phases is crucial. **Example:** An Australian e-commerce platform uses OLTP for daily transactions and OLAP for analyzing customer buying patterns.

6. Data Warehousing: Understanding what a data warehouse is and its significance. Basic knowledge is essential. **Example:** An Australian telecommunications company uses a data warehouse to integrate data from various sources for analysis.

Practical Example: Using business analytics in an Australian retail chain to improve stock management and sales strategies. The chain could use historical sales data, customer feedback, and market trends analyzed through a business analytics process involving Power BI to forecast demand, optimize inventory levels, and tailor marketing campaigns, thereby reducing costs and increasing revenue.

2. Tutorial Week 3: Understanding the Datasets

- Location.xlsx
- This Excel file contains geographical information useful for linking sales data with specific locations within the retail chain. Here's what each column represents:
- **City:** Contains codes representing various cities where the stores are located.
- **State #:** Lists numerical codes for states correlating to the city codes.
- **Description:** Provides the descriptive name of each city linked to the city codes.
- For geographic analysis or demographic studies, we use Location.xlsx



	A	B	C	D
1	City	State #	Description	
2	CT212	8050456	GILLETTE	
3	CT486	8050456	RAWLINS	
4	CT498	8050456	ROCK SPRINGS	
5	CT49	8050453	BELLINGHAM	
6	CT65	8050453	BOTHELL	
7	CT284	8050453	KENT	
8	CT291	8050453	KIRKLAND	
9	CT331	8050453	LYNNWOOD	
10	CT427	8050453	OLYMPIA	
11	CT433	8050453	OTHELLO	
12	CT470	8050453	PORT ANGELES	
13	CT491	8050453	RENTON	
14	CT537	8050453	SEATTLE	
15	CT557	8050453	SPOKANE	
16	CT634	8050453	YAKIMA	
17	CT299	8050449	LA VERKIN	
18	CT351	8050449	MEADOW	
19	CT525	8050449	SANDY	
20	CT32	8050448	AUSTIN	
21	CT43	8050448	BEAUMONT	
22	CT76	8050448	BRYAN	
23	CT110	8050448	CLEVELAND	
24	CT120	8050448	CONROE	
25	CT131	8050448	DALLAS	
26	CT137	8050448	DAYTON	

State | State & Region | Region

2. Tutorial Week 3: Understanding the Datasets

- W3 Uluru Goods.xlsx
- This file offers a comprehensive look at the sales performance of Uluru Goods across various stores. Detailed fields include:
- **Order_ID:** Unique identifier for each order placed.
- **Date:** The date each order was made (in Excel date format, which can be converted to a standard date).
- **Store_ID** and **Store_desc:** Identifier and description of the store where the order was placed.
- **Longitude** and **Latitude:** Geographic coordinates of the store, useful for spatial analysis.
- **City_ID** and **City_desc:** Links to the geographical location file for matching store locations with city details.
- **Cat_ID** and **Category:** Category identifier and description, which categorize the products sold.
- **Product_ID** and **Prod_desc:** Details of the individual products sold.
- **Price, Quantity_Sold, Original_Sales_Price, Discount_Percent, Discount, Sales_Revenue, Gross_Margin:** All pertain to the pricing, sales volume, discounts given, revenues generated, and margins on products sold. For sales performance, we use ‘W4 Uluru Goods.xlsx’ which contains sales data.

2. Tutorial Week 3: Using the Data with Power BI

- Data Integration and Analysis
- **Query Editor:** First, use the Query Editor in Power BI to import and cleanse the data from both Excel files. This involves tasks such as changing column names to more meaningful ones, converting data types appropriately, and removing unnecessary rows or columns.
- **Data Modelling:** Combine data from the two Excel files by linking them via common identifiers like city codes or store IDs. This is crucial for performing comprehensive analyses that incorporate location-based insights.
- **Data Visualization:** After modeling, use Power BI to create visualizations. For instance, sales performance can be visualized geographically, or trends over time can be analyzed through line graphs or bar charts.

Each of these topics is elaborated on, particularly focusing on how to prepare, transform, and model the data using various Power BI tools, making the content quite comprehensive in addressing the processes of handling and visualizing data in Power BI.

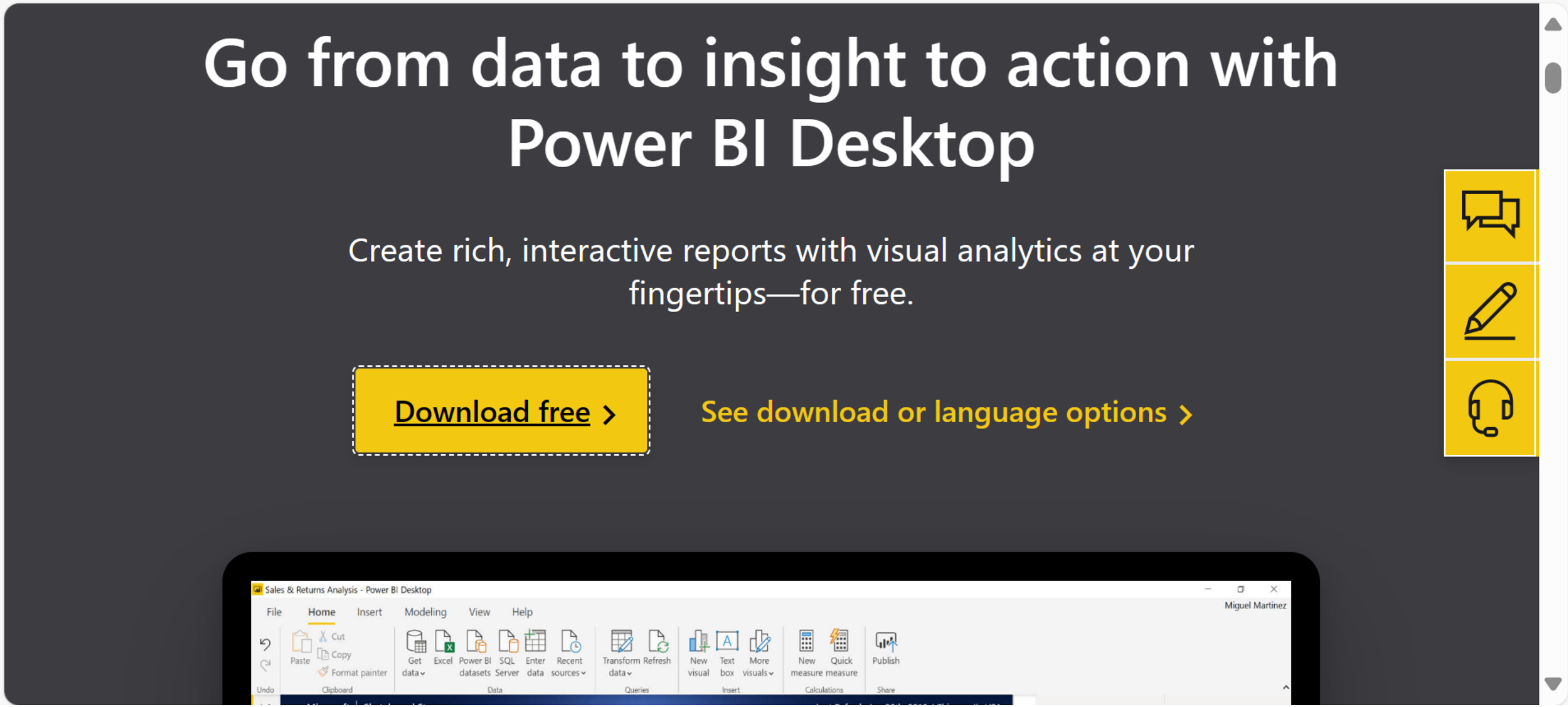
2. Tutorial Week 3: Practical Exercise

- **Forecasting and Optimization:** Use historical sales data to forecast future demands, using Power BI's forecasting tools. This aligns with the Microsoft Power BI document's scenario of using Power BI to analyze sales revenues and costs, aiming to enhance the business analytics environment of a company.

- Overall, the provided Microsoft Power BI document serves as an introduction to using Power BI for data manipulation and visualization. It is more geared towards foundational skills in handling and visualizing data rather than advanced analytical applications.

2. Tutorial Week 3: Installation

https://powerbi.microsoft.com/en-us/desktop/



2. Tutorial Week 3: Installation