



TecSkills™



A comprehensive hands-on training and internship experience.

DATA ANALYSIS

BUSINESS INTELLIGENCE

Master the art of Data Analysis & Business Intelligence



<https://www.tecskills.co.uk/>

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MODULE 1: EXCEL FOR DATA ANALYSIS

Duration: 4 Weeks

Objective: Equip students with practical data analysis skills using Microsoft Excel, including advanced functions, pivot tables, and data visualization techniques.



All learning resources will be provided



Direct Application:
Case Studies &
Internship

WEEK 1: EXCEL FUNDAMENTALS & DATA HANDLING

Excel fundamentals such as data handling, transformation, and visualization form the core of effective data analysis. These, in turn, support business intelligence processes allowing for data-driven decisions through tools like dashboards, pivot tables, and integration with platforms like Power BI. Excel's versatility in data manipulation and reporting makes it an essential tool in BI environments.

- Introduction to Excel interface and features
- Data types and formatting
- Basic functions and formulas (SUM, AVERAGE, COUNT, etc.)
- Sorting and filtering data
- Data cleaning techniques (Text to Columns, Find & Replace, Data Validation)



Hands-on Practice:

Creating datasets, applying basic functions, and cleaning data



Internship Projects

Direct application of skills learn to tackle end to end projects



WEEK 2: ADVANCED EXCEL FUNCTIONS

Advanced Excel functions play a critical role in data analysis by enabling users to perform complex calculations, data transformations, and decision-making processes efficiently. They extend the basic capabilities of Excel, helping analysts gain deeper insights from data, automate tasks, and create sophisticated models.

- Conditional functions (IF, AND, OR, etc.)
- Lookup and reference functions (VLOOKUP, HLOOKUP, XLOOKUP, INDEX-MATCH)
- Working with dates and text (DATE, TEXT, LEFT, MID, RIGHT)
- Error handling functions (IFERROR, ISERROR)



Hands-on Practice:

Case studies involving advanced formulas and real-life business problems



Internship Projects

Direct application of skills learn to tackle end to end projects



WEEK 3: CHARTS, PIVOT TABLES AND POWER QUERY

Charts, Pivot Tables, and Power Query are fundamental tools in Excel that enhance data analysis by offering powerful methods for data visualization, summarization, and transformation. Each plays a distinct role in improving decision-making, driving insights, and optimizing workflow in business intelligence (BI) and data analysis.

- Introduction to Charts & Pivot Tables
- Creating and formatting Pivot Tables
- Calculated fields and items in Pivot Tables
- Pivot Charts
- Slicers and timelines for dynamic reports



Hands-on Practice:

Analyzing sales or financial data using Pivot Tables and creating summary reports



Internship Projects

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WEEK 4: DATA ANALYSIS & EXCEL SOLVER

Excel's Solver is a powerful optimization tool used in data analysis to find the best solution for a problem that involves multiple variables and constraints. Solver is especially valuable when dealing with complex decision-making scenarios that require finding optimal solutions—such as minimizing costs, maximizing profits, or finding the best combination of inputs to achieve a target.

- Data Visualization
- Interactive Dashboard
- Excel Solver
- Executive Summary and Report Recommendations



Hands-on Practice:

Analyzing sales, preparing interactive dashboard, Using Excel Solver and creating summary reports



Internship Projects

Direct application of skills learn to tackle end to end projects





Module 2: Power BI for Data Visualization & Reporting

Objective: Enable students to design interactive reports, perform data modeling, and create dynamic dashboards using Power BI.



Duration: 4 Weeks



All learning resources will be provided



Direct Application:
Case Studies & Internship

Think of Business Intelligence Think Power BI



Week 5: Introduction to Power BI

- Overview of Power BI (Desktop, Service, and Mobile)
- Connecting to data sources (Excel, SQL Server, web data, etc.)
- Power Query Editor: data transformation and cleaning
- Basic visualizations (Bar, Line, Table, Matrix, etc.)



Hands-on Practice:

Importing and cleaning data from multiple sources



With business intelligence, a business can avoid losses and the worst possibility.



Internship Projects

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Week 6: Data Modeling and DAX

- Introduction to data modeling (tables, relationships, cardinality)
- Introduction to DAX (Data Analysis Expressions)
- Common DAX functions (SUM, CALCULATE, RELATED, IF)
- Time intelligence in DAX (YEAR, QUARTER, MONTH, etc.)



Hands-on Practice:

Building simple data models and calculating key metrics using DAX



Clear, real-time visuals enable leaders to focus on KPIs, operational performance, and business trends, making data-driven decisions rather than relying on instinct or assumptions.



Internship Projects

Direct application of skills learn to tackle end to end projects



Week 7: Creating Interactive Reports

- Visual formatting and customization
- Slicers, filters, and drill-through capabilities
- Creating hierarchies and tooltips
- Using bookmarks and buttons for navigation



Hands-on Practice:

Developing a sales performance report with interactivity



Real-time insights enable quicker responses to emerging trends, problems, or opportunities, leading to more agile and adaptive business operations.



Internship Projects

Direct application of skills learn to tackle end to end projects



Week 8: Power BI Dashboards and Sharing Insights

- Publishing and sharing reports on Power BI Service
- Creating and customizing dashboards
- Using Q&A for natural language queries
- Scheduled data refresh and managing report access



Hands-on Practice:

Publishing reports, sharing dashboards, and collaborating with team members



Real-time insights enable quicker responses to emerging trends, problems, or opportunities, leading to more agile and adaptive business operations.



Internship Projects

Direct application of skills learn to tackle end to end projects




Module 3: Tableau for Data Visualization

Objective: Teach students how to leverage Tableau's powerful data visualization tools to create insightful dashboards and analytics solutions.



Duration: 4 Weeks

 All learning resources will be provided

 Direct Application: Case Studies & Internship



Tableau Desktop

Thinking of a user friendly Business Intelligence Tool then Tableau



Week 9: Introduction to Tableau

- Overview of Tableau interface and connecting to data sources
- Data blending and joins
- Basic charts and visualizations (Bar, Line, Pie, Scatter, etc.)
- Sorting, filtering, and grouping data



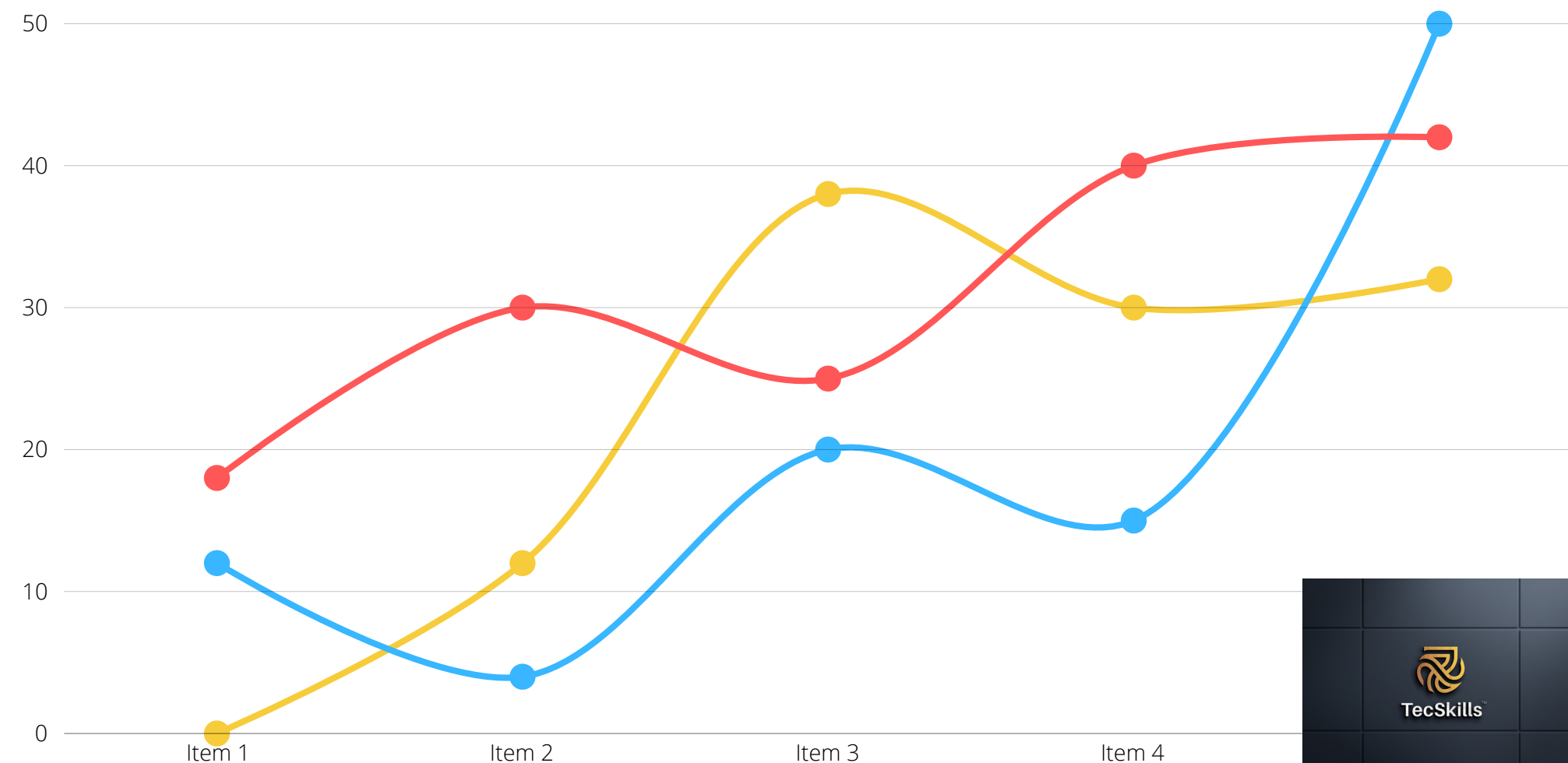
Hands-on Practice:

Importing and cleaning data from multiple sources



Internship Projects

Direct application of skills learn to tackle end to end projects





Week 10: Advanced Tableau Visualizations

- Creating calculated fields and using table calculations
- Working with maps and geographical data
- Parameters and input controls for dynamic visualizations
- Dual-axis charts and combination charts



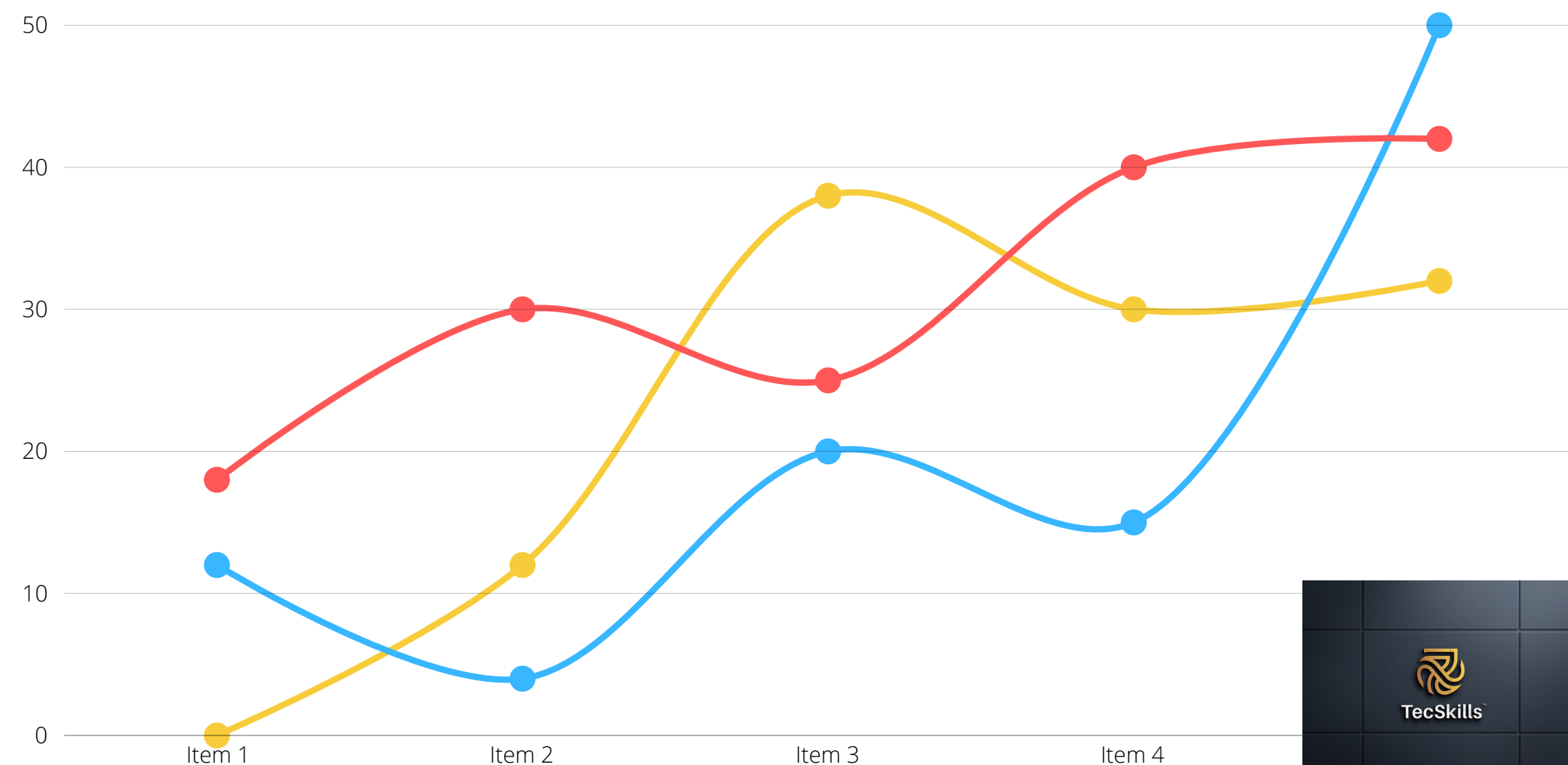
Hands-on Practice:

Building advanced visualizations (sales performance, regional analysis)



Internship Projects

Direct application of skills learn to tackle end to end projects





Week 11: Dashboards and Storytelling in Tableau

- Creating and designing dashboards
- Best practices for effective data storytelling
- Actions for interactivity (filters, highlights, URL actions)
- Story points for narrative reporting



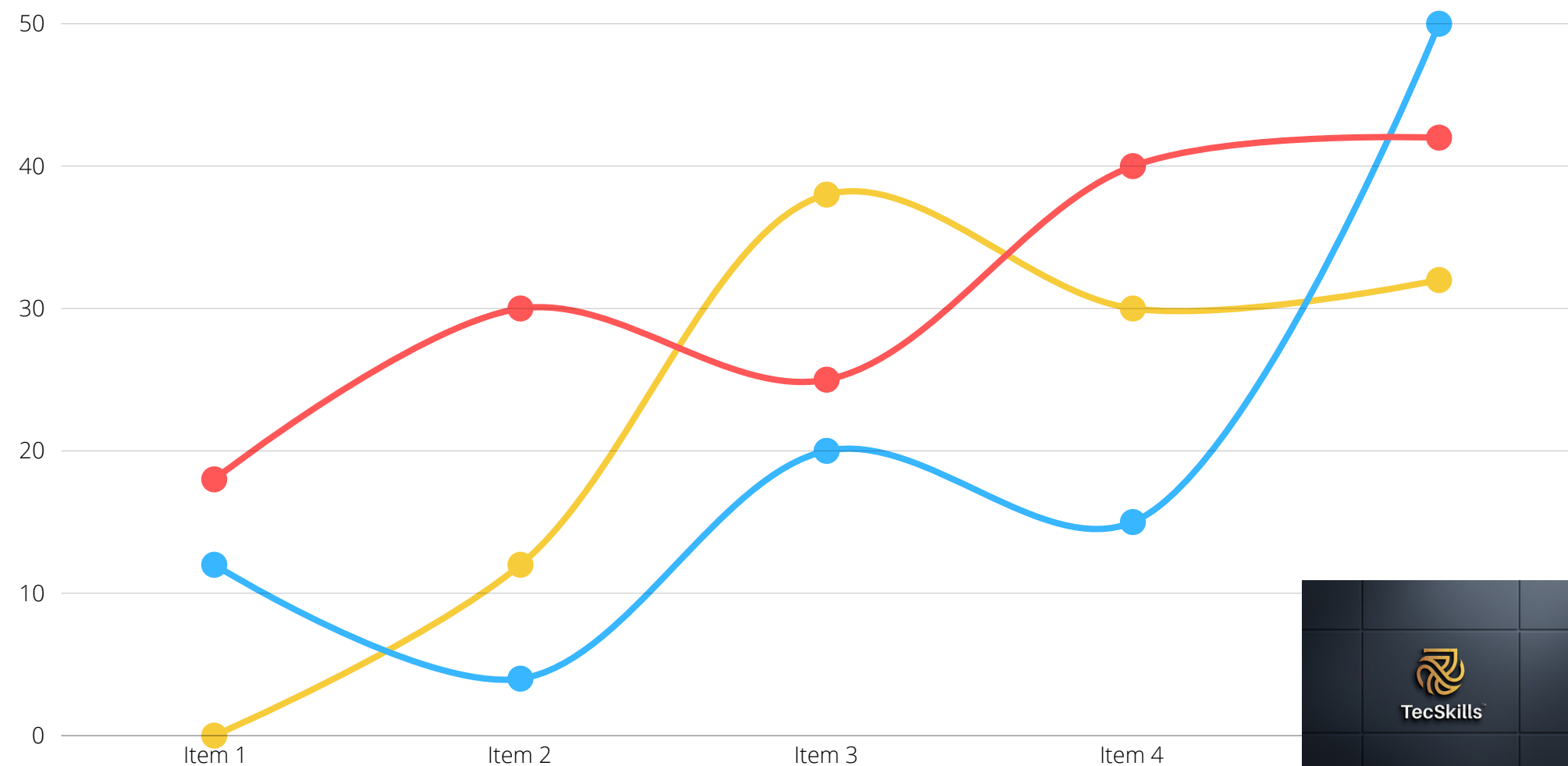
Hands-on Practice:

Building a multi-sheet dashboard for business insights



Internship Projects

Direct application of skills learn to tackle end to end projects





Week 12: Sharing and Publishing in Tableau

- Tableau Public vs Tableau Server vs Tableau Online
- Publishing and sharing dashboards
- Managing data refresh and security permissions
- Embedding Tableau visualizations into websites or applications



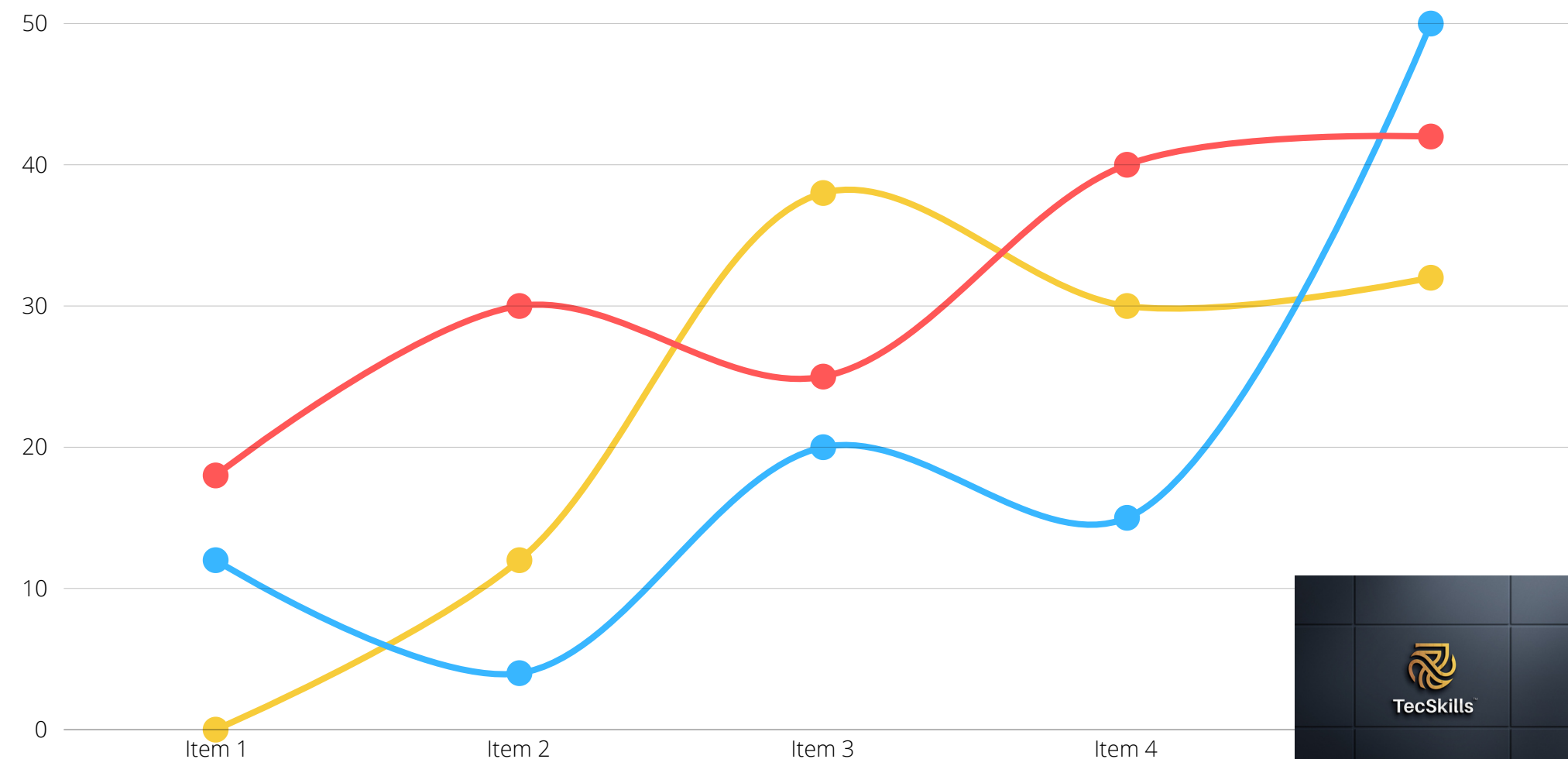
Hands-on Practice:

Publishing dashboards to Tableau Public or Server and sharing insights with stakeholders



Internship Projects


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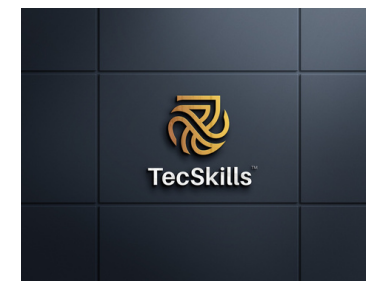


Capstone Project & Additional Benefits

- Business email:
yourname@tecskills.co.uk
- Database Management with SQL (Complete Course & Internship Experience)
- Power Point & Infographics Kit
- LinkedIn Optimization
- Portfolio Setup Kit
- Upwork Mastery Kit
- Professional Certificate
- Reference Letter



 **Capstone Project**
Students will be divided into group to work on 3 end end-to-end Projects using Microsoft Excel, Power BI and Tableau

A photograph of a desk setup. It includes a laptop, a notebook, a pen, a small candle, and a container of food. The desk is clean and organized.

Data Analysis & Business Intelligence - Complete Course

Business analysis is also useful for increasing profits and helping to achieve business goals and can be used to get to know more about the business from several sides.

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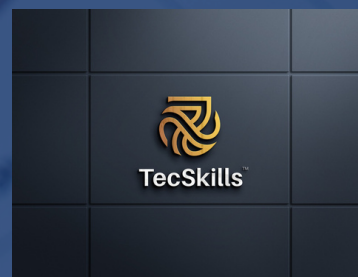
JOIN CLASS

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