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## Course Introduction

A properly refined set of data can provide actionable information that companies can use to make informed decisions. A well-designed and refined data warehouse can quickly transform usable information into a decision-making tool that allows companies to make informed decisions.

This is why organizations are in search of Business Intelligence (BI) analysts skilled in descriptive, diagnostic, and prescriptive models. The progressions help organizations drive important decisions with data and deliver powerful visualizations to help businesses understand their processes, customers, and products.





## Course Objectives

This program is designed to take individuals with either fundamental or no knowledge of analytics to becoming BI experts. You will learn how to create management-level reports, visualization, and make business-relevant forecasts.

# Course Prerequisites

This program is designed to take individuals with either fundamental or no knowledge of analytics to becoming BI experts. You will learn how to create management-level reports, visualization, and make business-relevant forecasts.





## Course Structure

There are three major levels to this course

- Advanced Microsoft Excel for data analysis
- Power BI for Data Modeling and Reporting
- SQL for Data Analytics and Reporting

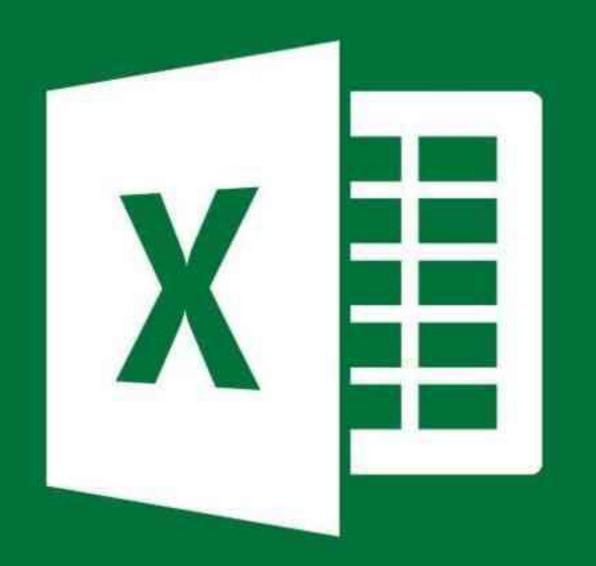




# Level 1: Advanced Microsoft Excel For Data Analysis

#### **Chapter 1: Introducing MS Excel**

- Excel Interface
- Functions and Formulas
- Flash fill and Autofill
- Data Formatting
- Introducing tables and Quick Analysis
- Creating basic charts with Excel
- Introducing Pivot Tables





#### **Chapter 2: Functions and Formulas**

- Text functions
- Aggregation functions
- Datetime functions
- Working with Ranges

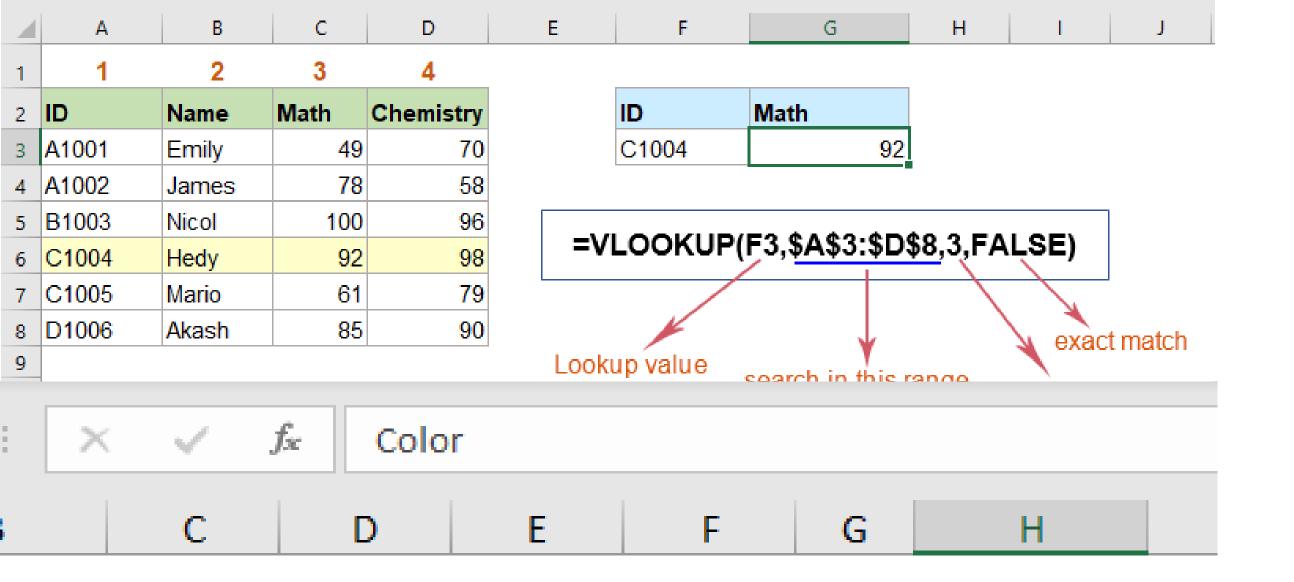
#### **Chapter 3: Working with Data**

- Sorting your data
- Filtering
- Aggregating and Subtotals
- Removing Duplications
- Aggregating your data
- Using IFS



Α	В	C
Number	Formula	Result
1	=ASINH(A2)	0.8814
10	=ASINH(A3)	2.9982
100	=ASINH(A4)	5.2983
1000	=ASINH(A5)	7.6009
10000	=ASINH(A6)	9.9035
100000	=ASINH(A7)	12.2061

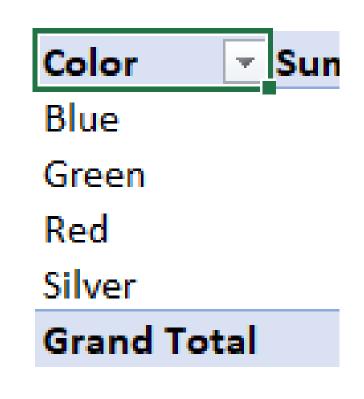




#### e sales data

	Color 💌	Region *	Units 💌	Sales 💌
an-16	Red	West	1	\$11.00
an-16	Blue	South	8	\$96.00
an-16	Green	West	2	\$26.00
an-16	Blue	North	7	\$84.00
eb-16	Green	North	8	\$104.00
eb-16	Red	South	2	\$22.00
eb-16	Blue	East	5	\$60.00
1ar-16	Green	West	2	\$26.00
1ar-16	Blue	East	8	\$96.00
1ar-16	Blue	North	7	\$84.00
1ar-16	Green	West	2	\$26.00
Apr-16	Blue	South	8	\$96.00

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#### Chapter 4:

#### **Advanced Concepts**

- VLOOKUP
- XLOOKUP
- MATCH/INDEX
- Data Validation

#### **Chapter 5: Pivot Tables**

- Insert a Pivot Table
- Pivot Tables for Summaries
- Change Pivot Table Calculation
- Sorting, Top N, Filter
- Two Dimensional Pivot Table



# Power BI The province of the

#### Level 2: Power BI For Data Modeling & Reporting

#### **Chapter 1: Getting Started with Power BI**

- Downloading the Power BI Desktop
- A walkthrough of the Power BI user interface
- Importing Data into Power BI
- Power Query user interface walk-through
- ETL on Power query Data transformation.

#### **Chapter 2: Data Modeling and DAX**

- Introduction to DAX
- Connecting the Calendar table to the Fact table
- Writing simple aggregation measures with DAX
- Creating automatic measures with Quick measures
- Creating Data Models
- Resolving issues with relationships within the model
- Testing the relationships in the Report view





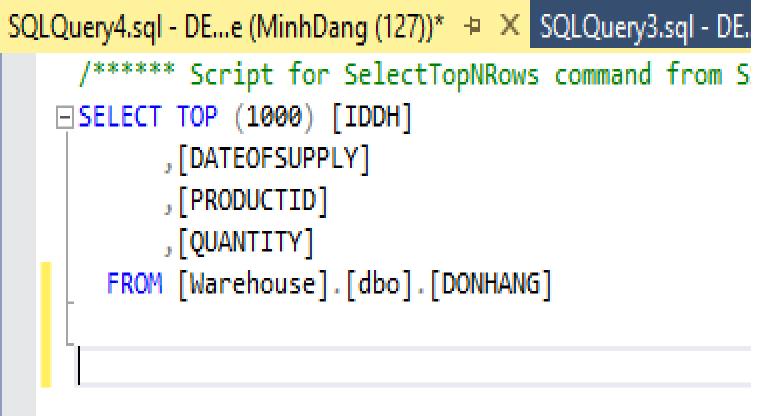
#### **Chapter 3: Data Visualization and Reporting**

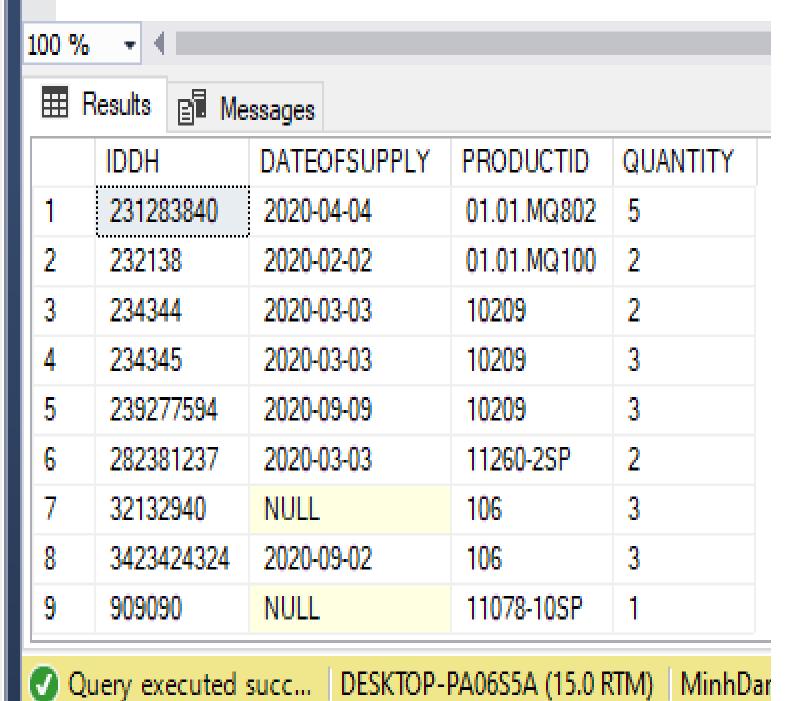
- Visualizing a timeline report with line chart
- How to format charts in Power BI
- Adding more than one chart to the report
- Top N report using a Bar Chart
- Use of filters pane and slicers
- Controlling visual interactions on the Canvass
- Optimizing reports for mobile view and publishing reports to the Power BI service
- Right visuals selection Best practices
- Using a report page as template for future report











Level 3: SQL For Data Analytics & Reporting Chapter 1: Introduction to SQL and Basic SQL Queries

- Introduction to relational databases
- Basic SQL Commands

**SELECT** 

**DISTINCT** 

**TOP N** 

Filtering results with WHERE

The WHERE clause

**BOOLEAN Operators** 

The AND keyword

The OR Keyword

BETWEEN, LIKE, IN and IS

IS and ISNOT

LIKE and other BOOLEAN Operators



#### Chapter 2: Aggregating and Shaping Results

- Aggregation Functions
   SUM, COUNT, MIN, MAX, AVG
- GROUP BY and HAVING
- Sorting your results with ORDER BY

#### Chapter 3: Matching Different Data Tables with JOINS

- CROSS JOIN
- INNER JOIN
- OUTER JOIN
- LEFT OUTER JOIN
- RIGHT OUTER JOIN
- FULL OUTER JOIN
- SELF JOIN





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