

- **Data Visualization and Dashboards with Excel and Cognos**
- **Week 1**
- **Visualising Data Using Spreadsheets**
- **Creating Charts**
- **Course Intro Video**
- **3 min video**
- It is often said that “a picture is worth a thousand words”. This phrase is especially relevant when it comes to Data Analytics. Data visualization plays an essential role in the representation of both small and large-scale data. This course from IBM is designed to help you tell a compelling story with your data using various visualization techniques. You will work with both Excel and Cognos Analytics to acquire the basic skills needed to create different types of plots, charts and graphs and build interactive dashboards - which are important parts of the skillset required to become a Data Analyst.
- Let's get started with your next video where you will get an introduction to charts...
- **Reading: Excel Keyboard Shortcuts**
- <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-DV0130EN-SkillsNetwork/Hands-on%20Labs/Reading%20-%20Excel%20Keyboard%20Shortcuts/instructions.md.html?origin=www.coursera.org>
- **Introduction to Charts**
- **4 min**

- In this video, we'll give an overview of several different types of charts and visualizations and discuss how they can be used to tell a story.
- In this video, we learned about the importance of charts and how they are able to shape our data to provide meaningful information. In the next video, we will dive into more details about how to create and configure different types of charts in Excel.

- **Interview : Using Visualisations to tell a data story**
- **3 min**
- In this video, we will listen to several data professionals discuss the importance of using visualizations to tell a story about data. Can you tell us about the importance of using visualizations to tell a story about data.
- **Creating Basic Charts in Excel (Line, Pie, and Bar Charts)**
- **5 min video**

- In this video we'll look at how to create a few basic types of charts in Excel. We'll first create line charts, then pie charts, and lastly, bar charts.
- In this video, we learned how to create, line, pie, and bar charts in Excel. In the next video, we'll look at how to use the PivotChart feature in Excel.
- **Using the Excel PivotChart Feature**
- **Video**

- Now that we've learned how to create a few basic types of charts in Excel, in this video we'll look at how to create some other basic charts using the PivotChart feature from a pivot table in Excel.
- In this video, we learned how to create area and column charts using the PivotChart feature from a pivot table in Excel. We also learned how to filter data using either the pivot table or the pivot chart, and we learned how to expand and collapse data levels using both the pivot table and pivot chart. In the next video, we'll look at some advanced charts available in Excel.
- **Hands-on Lab 1: Creating Basic Charts**
- <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-DV0130EN-SkillsNetwork/Hands-on%20Labs/Lab%201%20-%20Creating%20Basic%20Charts/instructions.md.html?origin=www.coursera.org>

<https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-DV0130EN-SkillsNetwork/Hands-on%20Labs/Lab%201%20-%20Creating%20Basic%20Charts/instructions.md.html?origin=www.coursera.org>

- Summary and Highlights

In this lesson you have learned:

- The importance of charts and how they are able to shape our data.
- How to use visualizations to provide meaningful information.
- How to use Excel to create line, pie, and bar charts.
- About Excel pivot tables in creating area and column charts using the PivotChart feature.
- How to use a pivot table or pivot chart to filter data and how to expand and collapse data levels.
- Practice Quiz and Graded Quiz

9:00 AM Wed 26 Jan coursera.org SWAROOPNC/Data-Visualization-and-Dashboards... OPEN

Practice Quiz | Coursera

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← Back Practice Quiz Practice Quiz • 12 min

1. What is the difference between Bar and Column charts? **1 / 1 point**

- The length of the bars
- The width of the bars
- One uses vertical bars, and one uses horizontal bars
- The number of bars

Correct
This is the difference between bar and column charts.

2. Which chart uses nested rectangles? **1 / 1 point**

- Sparklines
- Treemaps
- Scatter charts
- Bubble charts

Correct
Treemaps use nested rectangles.

3. According to the 'Introduction to Charts' video, which chart is one of the most commonly used? **1 / 1 point**

- Bubble chart
- Bar chart
- Funnel chart
- Scatter chart

Correct
A bar chart is one of the most commonly used charts

4. In the 'Expert Viewpoints: Using Visualizations to Tell a Data Story' video, one expert mentioned two software programs that help highlight the important information. Which were the two software programs? **1 / 1 point**

- DB2 and SQL
- PowerPoint and Excel
- Google and Bing
- Google Docs and Word

Correct
PowerPoint and Excel can help highlight the important information when telling a story about data.

5. In the 'Creating Basic Charts in Excel' video, which type of chart shows the relative contribution of unit sales from Ford car models? **1 / 1 point**

- Bar chart

4. When you add a filter to a pivot chart, how do you update the data in the original source pivot table? **1 / 1 point**

- You need to refresh the pivot table worksheet to refresh the data
- You need to click Refresh All in the Data group of the Analyze tab for the pivot table
- You do not need to do anything, as changes are immediately reflected in the pivot table data too
- You need to manually add the filter to the pivot table in the PivotTable Fields pane

Correct
When you add a filter to a pivot chart, changes are immediately reflected in the original source pivot table.

9:02 AM Wed 26 Jan coursera.org SWAROOPNC/Data-Visualization-and-Dashboards-...

Graded Quiz | Coursera

Back Graded Quiz Due Dec 20, 11:59 AM +04

5. In the 'Creating Basic Charts in Excel' video, which type of chart shows the relative contribution of unit sales from Ford car models?

1/1 point

Bar chart
 Line chart
 Funnel chart
 Pie chart

 **Correct**
The pie chart shows the relative contribution of unit sales of Ford car models

6. How does a pivot chart differ from a standard chart in Excel?

1/1 point

A pivot chart contains data series, categories, and chart axes
 A pivot chart cannot be a line, pie or bar chart
 A pivot chart uses data from a pivot table
 A pivot chart always has its data arranged in columns and rows

 **Correct**
A pivot chart specifically uses data from a pivot table, whereas standard charts use data from standard datasets and tables.

7. What is the main difference between Area and Column charts?

1/1 point

A column chart uses data points, and an area chart uses vertical bars
 An area chart makes sense of complicated data and a column chart shows chart axis like basic charts
 An area chart uses horizontal bars, and a column chart uses rows
 A column chart uses vertical bars, and an area chart uses data points

 **Correct**
This is the main difference between area and column charts.

9:02 AM Wed 26 Jan coursera.org SWAROOPNC/Data-Visualization-and-Dashboards-...

Graded Quiz | Coursera

Back Graded Quiz Due Dec 20, 11:59 AM +04

7. What is the main difference between Area and Column charts?

1/1 point

Question Grade 100%

1/1 point

Ability of line charts
 Ability of different, but related data sets
 Ability of similar, unrelated data sets
 Ability of frequency of data sets
 Ability of different, unrelated data sets

1/1 point

Creating Filled Map Charts and Sparklines

6 min video

Week 2

Creating Advanced Charts Creating Treemaps , Scatter Charts and Histograms

7 min video

1. Hands-on Lab 2: Creating Advanced Charts

<https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDveloperSkillsNetwork-DV0130EN-SkillsNetwork/Hands-on%20Labs/Lab%202%20-%20Creating%20Advanced%20Charts%20/instructions.md.html?origin=www.coursera.org>

Summary and Highlights

- How to create treemaps, scatter charts, and histograms in Excel.
- About the different charts available in Excel, and how each one is different in displaying data.
- How to create filled map charts and sparklines in Excel.

Now that we've learned how to create basic charts in this video we'll look at how to create some advanced charts in excel. We'll first create tree maps, then scatter charts, and lastly histograms.

Graded quiz

11:57 AM Wed 26 Jan coursera.org OPEN
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Graded Quiz Due Dec 27, 11:59 AM +04
Back Graded Quiz
12 min

3. What's one data type intended for waterfall charts?
- Stock performance data
 Financial data
 Progressively decreasing proportions
 Non-comparable categories

1 / 1 point

1. What do treemaps use to represent hierarchical data categories?

1 / 1 point

- Treemaps use different shapes.
 Treemaps use data points on a line.
 Treemaps use interconnected circles.
 Treemaps use color, size, and closeness of shapes.

Correct

Treemaps use color, size and closeness of shapes to represent hierarchical data categories.

2. Histograms can look like a bar chart, what's the key difference?

1 / 1 point

- Bar charts compare data and histograms display the distribution of data.
 Bar charts use horizontal bars.
 Histograms use Axis Options to display different bin sizes.
 Histograms use bins.

Correct

This is the key difference between histograms and bar charts.

11:55 AM Wed 26 Jan coursera.org OPEN
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Back Practice Quiz
Practice Quiz • 9 min

1. What are scatter charts commonly used for?

1 / 1 point

- To compare sales, and inventory data values
 To display distribution of data grouped into bins
 To compare values across hierarchy levels
 To compare statistical, scientific, and engineering data values

Correct
Scatter charts are commonly used to compare statistical, scientific, and engineering data values.

2. When you are creating a sparklines visualization, which two methods can you use to specify where the sparklines should appear on a worksheet? (Select two answers)

1 / 1 point

- On the worksheet select a cell and Excel will add the cell reference to the Location Range box for you.
Correct
This is one of the two methods you can use to specify the location of a sparklines visualization.
 Highlight the column, then right-click the intended cell location, and select Insert.
 Enter the cell reference in the Location Range box.
Correct
This is one of the two methods you can use to specify the location of a sparklines visualization.
 Right-click the intended cell location, and select Paste.

3. What kind of data works best with filled map charts?

1 / 1 point

- Complicated data
 Raw data
 Data containing geographical regions
 Scientific data

Correct
Geographical data, containing regional information of some kind, works best with filled map charts.

4. What are sparklines typically used for?

1 / 1 point

- To show data trends.
 To contrast numerical values.
 To highlight a data range.
 To show regional information.

Correct
Sparklines are typically used to show data trends, such as seasonal increases and decreases, economic cycles, and share, rate and price fluctuations.

Creating Dashboards Using Spreadsheets

Introduction to Dashboarding 3 min video

In this video we will have a brief introduction to dashboards, including what they are, what they consist of, why they can be a useful component in a data analyst's toolkit, and an essential skill in a data analyst's skillset.

Interview : Using Dashboard to Present Data Results

5 min

In the first part of this video, we will listen to several data professionals discuss how dashboards can help when presenting data results. Can you tell us how dashboards can help you when presenting data results?

Creating Simple Dashboard using Excel

7 min

Now that we've learned about the basics of dashboards and why they are an essential tool for a data analyst, in this video we'll look at how to set up and configure a relatively simple dashboard in Excel, which will help us to tell a story about our data.

In this video we learned how to set up and configure a relatively simple dashboard in excel, which will help us to tell a story about our data. In the next video we will get an introduction to IBM Cognos Analytics Data Analysis and Visualization Business Intelligence Platform.

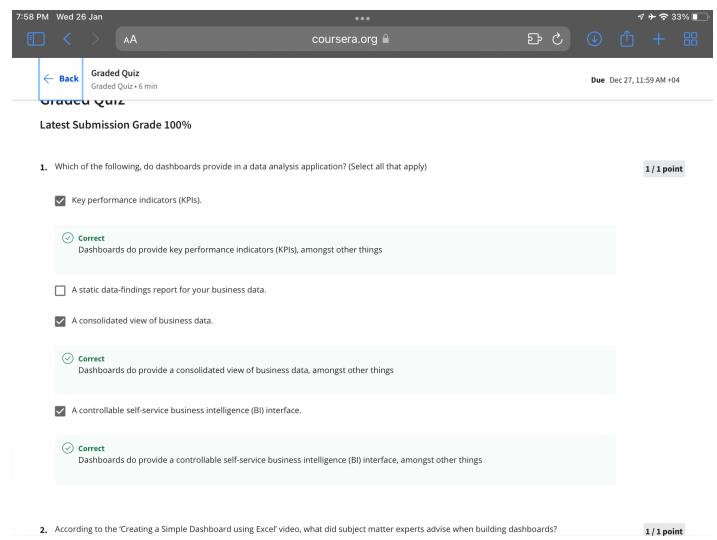
Hands-on Lab 3: Creating a Simple Dashboard with Excel

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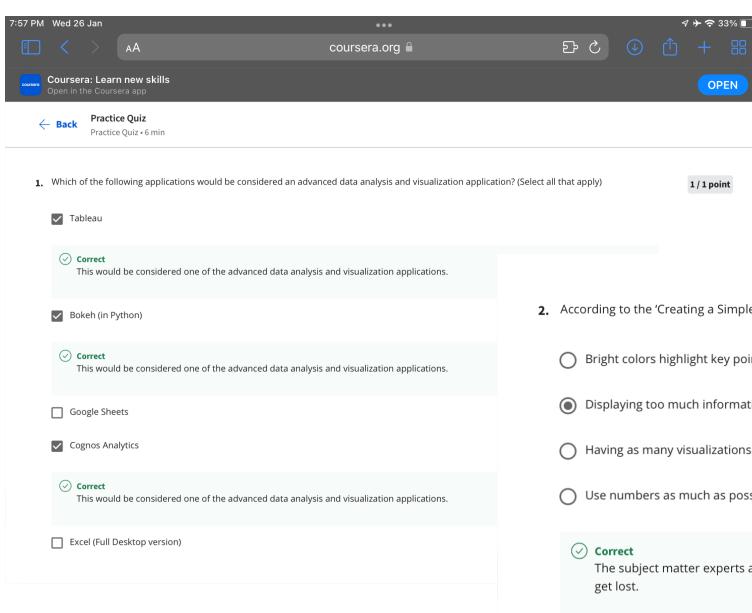
/instructions.md.html? origin=www.coursera.org

In this lesson you have learned:

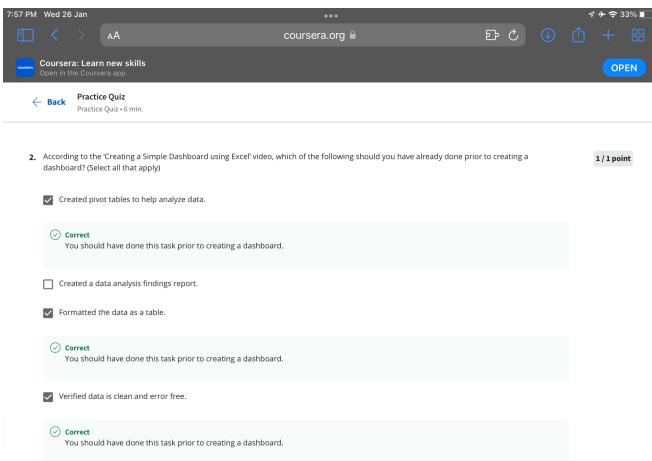
- The role of dashboarding and why it is an important skill as a data analyst.
- How to setup and configure a simple dashboard in Excel.
- The importance of dashboards in telling a data-driven story.



The screenshot shows a browser window on a Mac OS X system at 7:58 PM on Wednesday, January 26. The URL is coursera.org. The page title is "Graded Quiz" and the sub-page title is "Graded Quiz • 6 min". The status bar indicates "Latest Submission Grade 100%". The quiz interface includes a navigation bar with "Back", "Next", "AA", and "coursera.org". A toolbar with icons for refresh, search, and other functions is visible. The main content area displays a question and its options. Question 1 asks about what dashboards provide in a data analysis application. The correct answer is "Key performance indicators (KPIs)". Question 2 asks about what subject matter experts advise when building dashboards. The correct answer is "Bright colors highlight key points". Both questions have a "1 / 1 point" feedback box.



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Week 3

- **Creating Dashboards using IBM Cognos Analytics**
- Cognos Analytics : Introduction and How to sign up
- 1 min
- In this video, we're going to cover a couple of things. The first is a quick overview of what Cognos Analytics is and we're going to show you how to sign up for the trial.
- In the next video, we'll take you through a little bit around how to navigate and use Cognos and its dashboard capabilities.
- **Navigating in Cognos Analytics**
- 3 min
- In this particular video we'll cover of how we can upload spreadsheets, channel navigation, in Cognos Analytics, how to start a new dashboard, using dashboard templates as well as navigating within the Cognos

Analytics Dashboard environment.

- In the next video, we'll dive a little bit deeper into how specifically to create dashboards.
- **Hands-on Lab 4: Getting Started with Cognos Analytics**
- <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-DV0130EN-SkillsNetwork/Hands-on%20Labs/Lab%204%20-%20Getting%20Started%20with%20Cognos%20Analytics/instructions.md.html?origin=www.coursera.org>
- **Creating Simple Dashboard in Cognos**
- 4 min video
- In this video, we'll cover off creating simple dashboards and Cognos analytics. We'll cover a variety of different methods for creating a visualization.
- In the next video, we'll delve deeper into a few of the more

advanced capabilities of the dashboard.

- **Hands-on Lab 5: Different Methods for Creating Dashboard Visualizations with Cognos Analytics**
- <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-DV0130EN-SkillsNetwork/Hands-on%20Labs/Lab%205%20-%20Different%20Methods%20for%20Creating%20Dashboard%20Visualizations%20with%20Cognos%20Analytics/instructions.md.html?origin=www.coursera.org>
- **Advanced Capabilities in Cognos Analytics Dashboards**
- 3 min video
- In this video we're going to cover a few of the more advanced capabilities in Cognos Analytics Dashboards. Cover how to create calculations. How to leverage navigation paths. How to do excludes from visualizations, as well as how

to set top bottom on a visualization.

- **Hands-on Lab 6: Advanced Dashboard Capabilities in Cognos Analytics**
 - <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-DV0130EN-SkillsNetwork/Hands-on%20Labs/Lab%206%20-%20Advanced%20Dashboard%20Capabilities%20in%20Cognos%20Analytics/instructions.md.html?origin=www.coursera.org>
 - **Summary and Highlights**
- In this lesson you have learned:
- How to register and navigate around Cognos Analytics.
 - How to use Cognos Analytics to create a simple dashboard.
 - About the value of Cognos Analytics and its advanced capabilities, such as creating calculations and leveraging navigation paths.

1. Which URL do you navigate to, in order to sign up for a trial of Cognos Analytics?

- IBM.BIZ/TRY_COGNOS
- IBM.BIZ/COGNOS_TRIAL
- IBM.COM/TRIAL_COGNOS
- IBM.COM/TRY_COGNOS



Correct

This is the correct URL to sign up for a trial of Cognos Analytics.

2. In Cognos Analytics, which are the two main navigational areas of the interface?

- Left pane and top bar
- Drop-down menu and the right pane
- Page links and icons
- Menu links and Help pages



Correct

The left pane and the top bar are the main navigational areas in the Cognos Analytics interface

3. What happens first when you use the Cognos Assistant to help create a dashboard?

- It resizes and rearranges your visualizations on a dashboard.
- It automatically creates a dashboard.
- You can either ask a question directly or ask the Assistant to suggest some questions to ask.
- It suggests which visualizations to add to your dashboard.



Correct

When you use the Cognos Assistant you can either ask it a direct question, or you can ask the Assistant to suggest some questions to ask it.

4. What are the two ways to create calculations in Cognos Analytics? (Select two answers)

- Select operators and functions from the left pane.



Correct

Selecting operators and functions from the left pane or starting to type in the Expression box, are the two ways to create calculations in Cognos Analytics.

- Ask the Cognos Assistant.

- Start typing in the Expression box.



Correct

Selecting operators and functions from the left pane or starting to type in the Expression box, are the two ways to create calculations in Cognos Analytics.

- Search for calculations.

Graded Quiz

1. When signing up for a trial of Cognos Analytics, which item in the account form is the key one to take note of?

- Your country /region
- Your name
- Your closest data center
- Your address

 **Correct**

When signing up for a trial of Cognos Analytics, you should take note of the selection of your closest data center on the account form.

3. Which of the following methods can be used in Cognos Analytics to create visualizations? (Select all that apply)

- By automatic recommended visualizations.

 **Correct**

This method can be used in Cognos Analytics to create visualizations.

- By using widgets.

- By manually populating by dragging and dropping.

 **Correct**

This method can be used in Cognos Analytics to create visualizations.

- By using the Assistant to suggest questions and suggested visualizations.

 **Correct**

This method can be used in Cognos Analytics to create visualizations.

2. In Cognos Analytics what is the first step to build a dashboard?

- Select visualizations
- Choose a template
- Provide questions and answers to the assistant
- Upload a spreadsheet or workbook

 **Incorrect**

This is not the first step you take when building a dashboard. This step is done prior to starting to build a dashboard.

4. How can you create infographics in Cognos Analytics?

- Modify navigation paths.

- Use Exclude to filter out some data.

- Drag and drop a widget shape icon onto a visualization.

- Ask the Assistant different questions.

 **Correct**

This is how you can create infographics in Cognos Analytics.

Week 4

Final Project - Creating Visualizations and Dashboards

Final Assignment - Part 1: Creating Visualizations Using Excel

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**Final Assignment - Part 2:
Creating Visualizations Using
Cognos Analytics**

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Assignment- Part 3: Peer- graded Assignment

Peer-graded Assignment: Final