



Excel Basics

WV Mining Problem

Topics

- Download data and extract ZIP file contents
- Create a new workbook
- Adjust sheets
- Import XML data
- Import CSV data
- Import from an Access database
- Enter data

Background Information

This project includes information on coal mining in West Virginia from 1999 to 2019.

Instructions

IMPORTANT: This assignment requires the Windows version of Microsoft Office.

IMPORTANT: Complete the steps below in the order they are given. Completing the steps out of order may complicate the assignment or result in an incorrect result.

Download data and extract ZIP file contents

1. Download and extract the provided Data Files ZIP file. It contains the following files for use in this assignment:
 - a. **coalmined.xml** – Information on coal mined in West Virginia [1].

Column Name	Type	Description
County	Text	Name of the West Virginia county.
Region	Text	Region where the county is located.
Tons1999	Number	Tons of coal mined in the county in 1999.
Tons2004	Number	Tons of coal mined in the county in 2004.
Tons2009	Number	Tons of coal mined in the county in 2009.
Tons2014	Number	Tons of coal mined in the county in 2014.
Tons2019	Number	Tons of coal mined in the county in 2019.



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- b. **prices.csv** – Selling prices of coal mined in West Virginia [2].

Column Name	Type	Description
County	Text	Name of the West Virginia county.
Region	Text	Region where the county is located.
1999	Currency	Per-ton price of coal sold in 1999.
2004	Currency	Per-ton price of coal sold in 2004.
2009	Currency	Per-ton price of coal sold in 2009.
2014	Currency	Per-ton price of coal sold in 2014.
2019	Currency	Per-ton price of coal sold in 2019.
Average Price	Currency	Empty column.
Inflation-Adjusted 1999	Currency	Empty column.
2019 Rank	Number	Empty column.
2019 Rank Class	Text	Empty column.

- c. **totalvalues.csv** – Information on total value of coal mined in each county.

Column Name	Type	Description
County	Text	Name of the West Virginia county.
Region	Text	Region where the county is located.
1999	Currency	Empty column.
2004	Currency	Empty column.
2009	Currency	Empty column.
2014	Currency	Empty column.
2019	Currency	Empty column.
Coal Pricing	Text	Empty column.
2014-2019 Change	Text	Empty column.
Sparkline	Sparkline	Empty column.
County (Region)	Text	Empty column.

- d. **projections.accdb** – Information on coal mined in each region.

Query: Projections		
Field Name	Type	Description
Region	Text	Region where the county is located.
1999 Tons	Number	Tons of coal mined in the region in 1999.
2004 Tons	Number	Tons of coal mined in the region in 2004.
2009 Tons	Number	Tons of coal mined in the region in 2009.
2014 Tons	Number	Tons of coal mined in the region in 2014.
2019 Tons	Number	Tons of coal mined in the region in 2019.
2024 Tons	Number	Empty column.
2024 Price	Currency	Forecasted per-ton price of coal in 2024, assuming 2.5% inflation from 2019.
2024 Total Coal Value	Currency	Empty column.



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Create a new workbook

2. Begin by creating a new Microsoft Excel workbook named **mining_ppeb_wvmp.xlsx**.

Adjust sheets

3. We must adjust the sheets in our workbook.
 - a. Rename *Sheet1* to *Coal Mined*.
 - b. Add a new sheet named *Prices*.
 - c. Add a new sheet named *Total Values*.
 - d. Add a new sheet named *Projections*.
 - e. Add a new sheet named *Analysis Questions*.
4. Import the following items into the workbook:

Import XML data

- a. **coalmined.xml** file – Import as a table starting in cell **A3** of the *Coal Mined* sheet. Excel will create a schema based on the XML source data.

Import CSV data

- b. **prices.csv** file – Import as a table starting in cell **A3** of the *Prices* sheet. The file is comma-delimited. Its first row contains headers.
- c. **totalvalues.csv** file – Import as a table starting in cell **A3** of the *Total Values* sheet. The file is comma-delimited. Its first row contains headers.

Import from an Access database

- d. *Projections* query from the **projections.accdb** database – Import as a table starting in cell **A5** of the *Projections* sheet.

NOTE: Microsoft Access must be closed before importing the query.

Enter data

5. On the *Coal Mined* sheet, enter text in the cells as indicated below:
 - a. **A1:** Tons of Coal Mined per County
 - b. **C3:** 1999
 - c. **D3:** 2004
 - d. **E3:** 2009
 - e. **F3:** 2014



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- f. **G3:** 2019
6. On the *Prices sheet*, enter text in the cells as indicated below:
- a. **A1:** Coal Prices by County
7. On the *Total Values sheet*, enter text in the cell as indicated below:
- a. **A1:** Total Value of Coal Mined by County
8. On the *Projections sheet*, enter text in the cell as indicated below:
- a. **A1:** Forecasts
- b. **A3:** Scenario
- c. **A4:** 2019–2024 Production Change Rate:
- d. **B4:** -18.0%
9. On the *Analysis Questions sheet*, enter text in the cells as indicated below:
- a. **A1:** Question Number
- b. **B1:** Response
10. We must make additional adjustments to the sheets in our workbook.
- a. Copy the *Projections sheet* as a new sheet named *Forecasts*. Place the new sheet before the existing *Projections sheet*.
- b. Delete the *Projections sheet*.

Grading Rubric

This assignment is worth 8 points. It will be graded by your instructor using this rubric:

Standard	Meets Requirements (8 points)	Does Not Meet Requirements (0 points)
Student made reasonable effort in correctly completing assignment.	Assignment is at least 70% complete and correct, or student contacted instructor for help on incorrect or incomplete items.	Assignment is less than 70% complete and correct, and student did not contact instructor for assistance on incorrect or incomplete items.

This rubric will be used for peer evaluation of this assignment:

Standard	Excellent	Satisfactory	Needs Improvement
Assignment is correct and complete.	Assignment is at least 90% complete and correct.	Assignment is 70%-89% complete and correct.	Assignment is less than 70% complete and correct.



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References

- [1] "Historical & Statistical Data," *West Virginia Office of Miners' Health, Safety and Training*, May 18, 2021. Available: <https://minesafety.wv.gov/historical-statistical-data/>.
- [2] "Annual Coal Report," *Energy Information Administration*, Mar. 23, 2016. Available: <http://www.eia.gov/coal/annual/>.