

AMPL Modeling Language and System

for Hillier and Lieberman, Introduction to Operations Research, 12th edition

How to get AMPL. Free, full-featured AMPL software packages are available to support the optimization chapters of the Hillier and Lieberman textbook. Packages include the AMPL modeling language and system, the Gurobi solver, and a variety of other solvers that work with AMPL.

Visit <https://ampl.com/licenses-and-pricing/ampl-for-teaching/> to learn more and to set up your AMPL and solver software:

- Select **Request AMPL for Courses** for downloading to any Windows, macOS, and Linux computers involved in teaching a course, including the personal computers of instructors and students.
- Select **Explore AMPL on Google Colab** for running online in the Python environment of our AMPL Colaboratory, using Jupyter notebooks supported by the free Google Colab environment.

Additional instructions and examples for working with spreadsheets can be found at <https://plugins.ampl.com/amplxl.html>.

Example files. Along with this Contents file, the AMPL zipfile that you downloaded from the textbook website includes the following AMPL files to support examples from chapters 3 and 13. Solution listings and files for the AMPL exercises in chapters 3, 12, and 13 are available to instructors from the publisher.

3.6 Using Modeling Languages to Formulate Very Large Models

Wyndor0.mod	Wyndor model, without indexing
Wyndor0.run	Commands to run the model
Wyndor.mod	Wyndor model, with indexing
Wyndor.dat	Data for the model, in a text file
Wyndor.run	Commands to run the model
Wyndor.xlsx	Data for the model, in a spreadsheet file
Wyndor.xlsx.run	Commands to run the model using the spreadsheet data
WyndorBIG.mod	Big Wyndor model with time periods, inventories, and shipping
WyndorBIG3.dat]

WyndorBIG6.dat] Data for the model, in text files,
WyndorBIG12.dat] for 3, 6, 12, and 24 periods
WyndorBIG24.dat]
WyndorBIG.run	Commands to run all four data cases and report summary results

WyndorBIG3.xlsx]
WyndorBIG6.xlsx] Data for the model, in spreadsheets,
WyndorBIG12.xlsx] for 3, 6, 12, and 24 periods
WyndorBIG24.xlsx]
WyndorBIG.xlsx.run	Commands to run a selected data case and report summary results to a spreadsheet

13.7 Quadratic Programming

quadratic13.7.mod	AMPL model for the quadratic example in this section
quadratic13.7.run	Commands to solve the example

13.11 Solving Nonlinear Programming Problems with AMPL and Gurobi

Portfolio1.mod	Minimum risk portfolio with return goal
Portfolio1-15.dat	Data for 15 stocks
Portfolio1-50.dat	Data for 50 stocks
Portfolio2.mod	Maximum return portfolio with risk limit
Portfolio2-15.dat	Data for 15 stocks
Portfolio2-50.dat	Data for 50 stocks
Portfolio3.mod	Minimum risk portfolio with return goal and buy limit
Portfolio3-15.dat	Data for 15 stocks
Portfolio3-50.dat	Data for 50 stocks
Portfolio-15.run	Commands to run the 15-stock scenarios
Portfolio-50.run	Commands to run the 50-stock scenarios