

Answers to Exercises

*Introduction to Computational Science:
Modeling and Simulation for the Sciences, 2nd Edition*

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Chapter 1

Module 1.2

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|---|---|
| 1. Modeling Process
Analyze the problem

Formulate a model

Solve the model
Verify and interpret model's solution
Report on the model

Maintain the model | Scientific Method
Make observations and formulate a hypothesis
Develop a testing method for the hypothesis
Collect data for the test
Using the data, test the hypothesis
Accept or reject the hypothesis - often reported in a paper or conference
Frequently, the results present additional questions. |
| 2. Modeling Process
Analyze the problem
Formulate a model

Solve the model

Verify and interpret model's solution
Report on the model
Maintain the model | Software Life Cycle
Analyze the problem
Design - Very similar; includes pseudocode design of modules
Implementation with a computer programming system
Testing
Documentation
Maintenance |