

CSC 223 - Advanced Scientific Programming

Introduction

Science

- Science is a systematic enterprise that builds and organizes knowledge in the form of testable explanations and predictions about the universe.

The Scientific Method

- 1 Make an observation
- 2 Ask a question
- 3 Propose a hypothesis
- 4 Make a prediction based on the hypothesis
- 5 Test the hypothesis
- 6 Iterate

How can programming help?

- Analyze data
- Visualize data
- Symbolic computation
- Numeric computation
- Run simulations
- Automate experiments
- Record data from experiments
- Scientific publication