



Computational Discovery on Jupyter

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Suitable both for complete novices and for experts in programming and mathematics, this charming book will inform, entertain, and puzzle readers for hours. I hesitate to call it a “textbook” because it actually makes both mathematics and programming a lot of fun!

— Nilima Nigam, Simon Fraser University

Interesting mathematics can be discovered through computational experiments, as is convincingly demonstrated by this book. It gently guides the reader through material not found in standard courses, making excellent use of graphics and teaching basic programming along the way.

— Nicholas J. Higham, University of Manchester

This book uses Python to teach mathematics not found in the standard curriculum, so students learn a popular programming language as well as some interesting mathematics. Videos, images, programs, programming activities, pencil-and-paper activities, and associated Jupyter Notebooks accompany the text, and readers are encouraged to interact with and extend the material as well as contribute their own notebooks. Indeed, some of the material was created/discovered/invented/published first by the authors' students.

Useful pedagogical features include:

- using an active learning approach with topics not typically found in a standard math curriculum
- introducing concepts using programming, not proof, with the goal of preparing readers for the need for proof
- accompanying all activities with a full discussion

Computational Discovery on Jupyter is for upper-level high school and lower-level college students. Graduate students in mathematics will also find it of interest.



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