

Note to Instructors of Courses Based on *From Mathematics to Generic Programming*

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The slides available on this website are intended as lecture notes for a course based on our book *From Mathematics to Generic Programming* (FM2GP).

Organization of Material

The slides are currently organized into 24 lectures. Most of the lectures contain about 25-35 slides each, except for the first and last, which are significantly shorter. We assume that the first class meeting will require time for administrative tasks (students adding the course, etc.) and therefore won't have time to get beyond an introduction and overview of the topics, mirroring Chapter 1 of the book. The last lecture is shorter because we expect that some class time will be taken up with discussion of students' progress on the final project (implementation of RSA), which is introduced and assigned at the end of the previous lecture. We also imagine that a small number of additional class periods may be taken up with exams or supplementary topics.

Our division of slides into lectures assumes a course that meets twice a week, but if your version of the course has a different schedule that results in fewer or more lectures, you'll obviously need to divide the slides differently. In general, this should present no problems, but note that the current lectures often start with an introduction to that topic and end with a reflective "Things to Consider" discussion; you may wish to move these opening and closing slides to reflect your divisions.

Files and Compatibility

The slides are grouped into three files for convenience.

We used PowerPoint to create the slides. If you need to *edit* them, we strongly recommend that you use PowerPoint as well; we have observed conversion problems when importing them into other presentation programs such as Keynote. If you use one of these other programs, you may discover an important Greek letter replaced with a strange box, font changes that make code listings less readable, or strange transformations that make figures blurry and distorted.

To *view* the slides on a device that does not have PowerPoint, we provide a PDF version.

Speaker Notes

Many of the slides have associated text in the speaker notes pane. This material is intended as suggestions for things the instructor may want to say to the class when presenting that slide. These notes are visible in the Presenter View.

Builds

A few slides contain build animations, where only part of the slide is displayed initially, with additional content visible following one or more clicks. We use builds primarily in situations where a theorem or formula is followed by its proof or derivation on the same slide. In this case the intent is for the class to focus on and understand the original statement (perhaps after some discussion), before delving into the proof. Instructors should be aware that some comments in the speaker notes may refer to parts of a build slide that have not yet been made visible.

LaTeX Sources

Some slides include groups of mathematical formulas, definitions, or derivations that would be hard to write natively in PowerPoint. In these cases we have used LaTeX for composition, and imported an image of the math block into PowerPoint from the LaTeXiT program. We have appended the original LaTeX source to the speaker notes on slides where these formulas appear, so the instructor can edit this content if desired. This LaTeX source code is set in a smaller font with grey text, to avoid confusion with the normal content of the speaker notes.

Modifications and Copyright

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