Slide 1

Administrivia

- Reminder: Homework 3 design due today, code next Tuesday.
- Reminder: Midterm exam next Tuesday. Review sheet on Web.
- I will grade today's quiz and — is it okay with everyone if I put your graded papers outside my office door for you to pick up?
- Watch your mail for grades and comments on homeworks turned in so far — coming soon.

Slide 2

A Little About the Midterm

- Review class notes, example programs from class, minute essays, and quizzes.
- Most questions will likely be more difficult (or at least longer) than quiz questions, but similar in format. Might be a few short-answer / multiple-choice questions too.
- Open book, open notes, some access to Web.
- If you want extra non-game "practice problems" to try, send me mail.

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Homework 3 Hints — General

- Remember that most game framework interfaces and classes are generic, so to use them you should supply two "type parameters" (your block and entity interfaces). Why is it written that way? should start to become clearer with this assignment.
- Two groups of methods to define:
  - Methods of two framework interfaces, `Player` and `GameEntity`. Called once per game tick (normally — but you can have it called less often).
  - Methods of appropriate listener interface(s). Called when human player provides input.
- Think about what variables you need — in general, if there's something that's part of the object's "state" and needs to be used by more than one method, it should be an instance variable.

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Homework 3 Hints — Drawing Things

- Individual blocks and entities: What's drawn is controlled by `getImage`. Blocks all scaled to same size. Entities scaled based on `partialSizeX/Y`. Positions of entities based on locations.
- "Partial"? The framework allows you to define, for the purposes of moving and scaling, a "partials in whole" number (to allow moving in fractions-of-a-block units).

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Homework 3 Hints — Drawing Things, Continued

- Laying out screens: You can do this in code (probably in your screen class) or using the "screen editor" (brief description and links to more info in writeups for Homeworks 2 and 3).

  Potential "gotcha": If you set "partials in whole" to a non-default value (in your game setup class), and you want to use the screen editor, you also need to set "partials in whole" in your screen class.

- Notice / recall that not everything has to be part of the playing field: Your game can also include "panels" on any or all four sides. (We won't add those until Homework 6; for now you could consider just printing information to the console.)

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Homework 3 Hints — Responding to Input, Moving Around

- Game ticks and keyboard/mouse events aren't particular in synch.
- So listener methods should probably just record information, to be processed by `update` method.
- Look at documentation of (Java library) listener interfaces to know what methods to write. Follow links to find out about other useful classes (e.g., `KeyEvent`).
- "Move" by changing location. Useful methods in (framework) `Location` class.

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Homework 3 Hints — Interacting With Blocks

- At least some code for interacting with blocks goes in player classes. Similarly for other entities. However, good use of block hierarchy can help.
- Example — how do you not go through walls?

  (Contrast the "old way" using `instanceof` versus the "new way" using polymorphism and your interfaces.)
- Interacting with other entities starts in Homework 4, and is done in a similar (but not exactly the same) way.

Slide 8

Minute Essay

- None — quiz.