Administrivia

- Updated readings on "lecture topics and assignments" page.

- Reminder: Homework 3 design due 11:59pm today. Homework 3 code due Thursday.

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- Reminder: Quiz 3 Thursday. Likely topic is something involving arrays, maybe in the context of writing a class.

- Midterm next Tuesday. I will post a review sheet on the Web before Thursday, and we can spend a few minutes in class talking about it.

Recap — ADTs, Array-Based Stacks and Queues

- Abstract data type — define possible "values", list of operations. Could capture as Java `interface`.

- Stack ADT — FIFO queue.

- Queue ADT — LIFO queue.

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- Implementations based on `Vector` last time:
  - Stacks easy, queues somewhat trickier ("circular queue").
  - General approach — decide what variables we need, what they should "mean".
  - Include `main` method for simple error checking.

- Minute essay question: If we start with an empty stack and do push(5), push(7), pop(), push(2) — what's the result?

General Homework Hints

- "Links" — a way to teleport player or other entity from one spot to another. Make this work via methods of `Block` and `GameEntity` interfaces.

Slide 3

- Some helpful tools — "screen editor" for laying out screens, "image editor" for drawing images. Or can use `ImageIO.read()` and files created by other programs. Appears that JPEG, bitmap, GIF, and PNG are supported.

Homework 3 Hints

- `Player` defines some constants you should use.

- You will implement `KeyListener` or one/both of the mouse-listener interfaces. When you do this, the framework will deliver key and/or mouse "events" to you.

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- Most logic will go in `update`, `getUpdateTime`, and the listener methods.

- Think about what variables you will need.

More About Arrays and Sorting

- We looked briefly at the `Arrays` class and its methods. Let's look a little more at how we could use its sort methods to do (1) case-insensitive sort and (2) sorting of objects of a class we wrote . . .

- We could also code up a framework for comparing various sorts, by counting numbers of comparisons . . .

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Lists

- List ADT:
  - "Values" are lists of elements.
  - Many operations possible — add element, remove element, search for element, etc., etc.

- Implementation:
  - Using an array.
  - Using a "linked list".

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Slide 7

Minute Essay

- Tell me about your experiences doing the homeworks so far: What has been difficult? easy? interesting? valuable? not valuable?