Administrivia

- Reminder: Homework 5 code due today.
- Homework 6 due dates posted (design a week from today, code the following Tuesday).

Minute Essay From Last Lecture

- (The question was about how you could use the game’s menu bar and/or panels on the four sides of the playing field to improve your game.)
- Many people mentioned displaying a score, lives left, a timer, etc. All sensible.
- Several people mentioned adding a “restart game” menu option. Very doable, if a little tricky (since you have to reset everything to its initial state).
GUls in Java — A Little More

- (Look briefly at sample program with dialogs.)

Graphics in Java — Custom Components

- Predefined components (JButton, etc.) do a lot, but what if you want something that's not provided? In particular, you want to control the image yourself?

- Make a custom component — define a subclass of a component that provides some of the needed functionality, and override the method that defines what's displayed.

  E.g., subclass JPanel and override paintComponent, to include your code to “paint” the panel.

- Call repaint when ready to redisplay.
Custom Painting

• Method to override is

    public void paintComponent(Graphics g).

    g is a “graphics context” that you can draw on. (Actually it’s a
    Graphics2D.) Tutorial recommends calling
    super.paintComponent(g) before doing anything else.

• Can get dimensions of panel with getSize, getHeight, getWidth,
  getInsets.

• Can set colors, draw shapes, lines, text, etc., etc. — see Graphics and
  Graphics2D class. Coordinate system is similar to what you’re using in
  your game. See code in BasicBlock for simple example.

Custom Painting, Continued

• General advice — look over the methods of Graphics and
  Graphics2D; if confused, follow links to tutorial(s) and look for a suitable
  example to adapt.

• Let’s look at example(s)…
Minute Essay

• In the example shown in class (ShowImageFromFile on sample programs page), what would you put in paintComponent in ImagePanel to fill the panel with a white rectangle with an outline of a red rectangle inside?

Minute Essay Answer

• You could do something like the following:
  g.setColor(Color.white);
  g.fillRect(0, 0, getWidth(), getHeight());
  g.setColor(Color.red);
  g.drawRect(20, 20, getWidth()-40, getHeight()-40);