SimpleCanvas API

A SimpleCanvas represents a window on the computer screen where lines and shapes can be drawn.

Constructors

- `SimpleCanvas(int width, int height)`
    - Creates a canvas in a new window on the screen of the given width and height.

- `SimpleCanvas(int width, int height, String title)`
    - Same as above, but lets you specify the title of the window.

Instance Methods

Drawing shapes, lines, and text

- `void drawCircle(int centerX, int centerY, int radius)`
    - Draws a circle centered at (centerX, centerY) of the given radius.

- `void drawOval(int centerX, int centerY, int radiusX, int radiusY)`
    - Draws an oval centered at (centerX, centerY) with the given x-radius and y-radius.

- `void drawRectangle(int topLeftX, int topLeftY, int width, int height)`
    - Draws a rectangle with the top left corner at (topLeftX, topLeftY) and the given width and height.

- `void drawPolygon(int[] xPoints, int[] yPoints)`
    - Draws a polygon specified by the (x, y) coordinates in xPoints and yPoints.

- `void drawFilledCircle(int centerX, int centerY, int radius)`
- `void drawFilledOval(int centerX, int centerY, int radiusX, int radiusY)`
- `void drawFilledRectangle(int topLeftX, int topLeftY, int width, int height)`
- `void drawFilledPolygon(int[] xPoints, int[] yPoints)`
    - Same as the four above, but the shape is filled with the current pen color.

- `void drawLine(int x1, int y1, int x2, int y2)`
    - Draws a line from the point (x1, y1) to (x2, y2).

- `void drawString(int x, int y, String text)`
    - Writes the specified text on the screen with the bottom left of the text at the coordinates (x, y) in a 12 point font.

- `void drawStringCentered(int x, int y, String text)`
    - Writes the specified text on the screen with the center of the text at the coordinates (x, y), in a 12 points font.

- `void drawString(int x, int y, String text, int fontSize)`
    - Writes the specified text on the screen with the bottom left of the text at the coordinates (x, y).

- `void drawStringCentered(int x, int y, String text, int fontSize)`
    - Writes the specified text on the screen with the center of the text at the coordinates (x, y), in the specified font size.

- `void drawImage(int x, int y, String filename)`
    - Draws an image on the canvas with the top-left corner at (x, y). Supports JPG or PNG (maybe others too).

- `void drawImage(int x, int y, String filename, int width, int height)`
    - Draws an image on the canvas with the top-left corner at (x, y). Image will be stretched or shrunk to fit the specified width and height.

Changing the way things are drawn

- `void setLineThickness(int size)`
    - Sets the thickness of the lines used for drawing lines and non-filled shapes.

- `void setPenColor(Color c)`
    - Sets the color of the "pen" used for drawing lines and shapes.

- `void setBackgroundColor(Color c)`
    - Sets the color of the background of the canvas. Will not be shown until clear() is called.

Using the mouse

- `void waitForClick()`
    - Pauses the program until the mouse is clicked somewhere on the canvas.

- `int getMouseClickX() / int getMouseClickY()` [*two separate methods*]
    - Returns the x- or y-coordinate of the last mouse click on the canvas.

Operations on the entire canvas

- `void clear()`
    - Erases everything on the canvas and fills it with the background color.

- `void show()`
    - Shows the canvas window on the screen. Automatically draws all shapes since the last update.

- `void hide()`
    - Hides the canvas window on the screen (make it invisible).

- `void update()`
    - Updates the canvas drawing to draw everything since the last update.

Getting information about the canvas or its contents

- `int getHeight()`
    - Returns the height on the canvas in pixels.

- `int getWidth()`
    - Returns the width of the canvas in pixels.

- `Color getPixelColor(int x, int y)`
    - Returns the color of a specific pixel on the canvas.

- `void setPixelColor(int x, int y, Color c)`
    - Sets the color of a specific pixel on the canvas.