

APCS Problem Set 3: Java Style and Syntax

2.3 Questions

2. Based on Ch. 3, #3: Consider the source code for `MovingDisk.java`, **on the next page**. (12pts)
- There are 16 *reserved words* in the class; **box** all instances of them.
 - Put an **oval** around all *constants* you find.
 - Draw a **triangle** around all *method* names. Remember that constructors and `main()` are methods, too.
 - Any time the `new` keyword is used, **underline** the type of the object that is created. For example, you would underline the following statement like so:
String `str = new String("hello.");` ← `String()` needs to have a triangle around it!

4.3 Revisiting Problem Set #2

Your task now is to go back and add `Javadoc`-style comments to the class definitions and methods for these source files from PS #2:

- `BankAccount.java`,
- `CheckingAccount.java`, and
- `SavingsAccount.java`.

Create a new project in `workspace0` called `ps03b`. Populate the `src` folder with your source files from `ps02`. Alternatively, if you did not have working versions of the PS #2 classes, you may download and use the versions from http://feromax.com/apcs/problemsets/PS03/downloads/ps2_reference_files/.

Make sure that all methods returning something have `Javadoc` comments that include `@return`. Likewise, make sure all methods taking parameters have `Javadoc` comments that include `@param variable_name`.

Once you've added the comments, run `Javadoc` to produce the docs. Show the completed `Javadoc` web pages to your teacher for a sign-off.

Teacher's initials: _____ (20pts)

```
import java.awt.*;
import java.awt.event*;
import javax.swing.*;

public class MovingDisk extends JPanel implements ActionListener {
    private int time;

    public MovingDisk() {
        time = 0
        Timer clock = new Timer(30, this);
        clock.start;
    }

    public void paintComponent(Graphics g) {
        int x = 150 - (int)(100 * Math.cos(0.005 * Math.PI * time));
        int y = 130 - (int)75 * Math.sin(0.005 * Math.PI * time));
        int r = 20;

        Color sky;
        if (y > 130) sky = Color.BLACK
        else sky = Color.CYAN;
        setBackground(sky);
        super.paintComponent(g);

        g.setColor(Color.ORANGE);
        g.fillOval(x - r, y - r, 2*r, 2*r);
    }

    public void actionPerformed(ActionEvent e) {
        time++;
        repaint();
    }

    public static void main(String args) {
        JFrame w = new JFrame("Moving Disk");
        w.setSize(300, 150);
        w.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        Container c = w.getContentPane();
        c.add(new movingDisk());
        w.setResizable(false);
        w.setVisible(true);
    }
}
```