Topics: Writing subclasses; graphics; static components

Reading: (T) Sec 1.4-1.7, Sec 13.0-13.2.1

Writing a subclass

Keyword: extends
Example class header: public class MyFrame extends JFrame

A subclass builds on an existing class. In the subclass, add the needed functionality that is not in the super class. The subclass has direct access to all the public components of the super class—the components are inherited.

Creating an object of a subclass

    new classname()

Example: MyFrame f = new MyFrame();

Examples

Edit class MyFrame:

- Keep track of the length of the short side of the frame before the squaring operation
- Draw a square in the frame
- Write a method to take the absolute value of a passed integer (input argument)
- Keep track of the number of times method absolute has been called

OOP ideas

- Aggregate variables/methods into an abstraction (a class) that makes their relationship to one another explicit
- Objects (instances of a class) are self-governing (protect and manage themselves)
- Hide details from client, and restrict client’s use of the services
- Allow clients to create/get as many objects as they want
import javax.swing.*;

/** Square frames */
public class SquareFrame extends JFrame {

    /** make this window a square */
    public void makeSquare() {
        int dim = Math.max(this.getHeight(), this.getWidth());
        this.setSize(dim, dim);
    }
}

}