# Java SWING Event Handling

CSCI 2300

### Input

So we now know how to present widgets on the screen

A program also needs to react to the user's actions

Examples:

- When the user presses a button we want to save a file
- $\,\circ\,$  When the user closes the program we want to ask "are you sure?"
- ...

Swing mechanism: Events and Listeners

## Events, Listeners

Swing defines all sorts of Listener interfaces

}

}

 E.g.: ActionListener, MouseMotionListener, WindowListener, ...

public interface ActionListener extends EventListener {

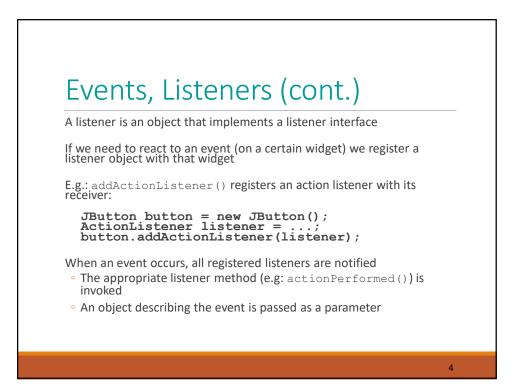
```
public void actionPerformed(ActionEvent e);
```

public interface MouseMotionListener extends EventListener {

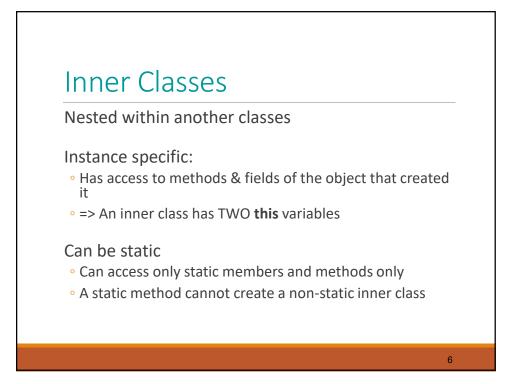
public void mouseDragged(MouseEvent e);

public void mouseMoved(MouseEvent e);

There are default (empty) implementations for many of the listeners • E.g.: MouseMotionAdapter, *WindowAdapter* 







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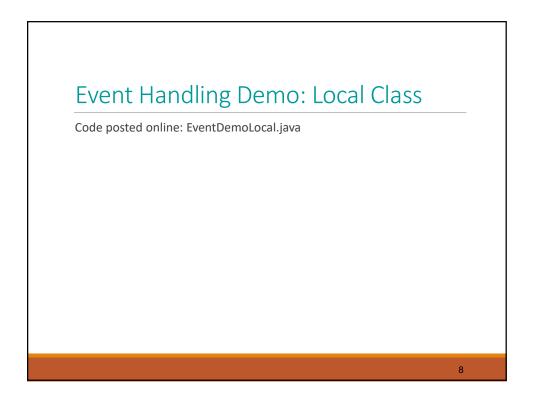


Same as inner classes but defined inside a method

Has access to local variables of the enclosing method • Only if the variable is defined as final

Can be anonymous

• Doesn't have a name.



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### Accessing Fields of Enclosing Object

```
public class A {
    int x = 0;
    public void f() {
        B b = new B();
        b.g();
        System.out.println(x); // Output: 5
    }
    public class B {
            public void g() { x = 5; }
    }
    public static void main(String[] args) {
            new A().f();
    }
}
```

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