import javax.swing.JFrame;

/\*\* A JFrame with geometry features \*/

public class GeometricFrame extends JFrame {

/\*\* transposes (flips the dimension) of the window \*/

public void transpose() {

this.setSize(this.getHeight(), this.getWidth());

return;

}

/\* store the original title for the window \*/

private String originalTitle = null;

/\*\* adds the window size to the title \*/

public void displaySizeOnTitle(boolean turnDisplayOn) {

if (turnDisplayOn) { // turning the display on

/\* if the field does not store a title, save the current title \*/

if (originalTitle == null)

originalTitle = this.getTitle();

super.setTitle(originalTitle + " " + this.getWidth() + "x" + this.getHeight());

}

else { // turning the display off

if (originalTitle != null) {

super.setTitle(originalTitle);

originalTitle = null; // reset original title

}

}

}

/\* Override setTitle to respect the title size display \*/

@Override

public void setTitle(String title) {

if (originalTitle != null) { /\* if the size display is on \*/

displaySizeOnTitle(false); /\* turn off the display \*/

super.setTitle(title); /\* call JFrame's setTitle \*/

displaySizeOnTitle(true); /\* turn the display back on \*/

}

else /\* otherwise, we still need to call \*/

super.setTitle(title); /\* JFrame's setTitle to set the title \*/

}

/\* Compares two JFrames and returns true if the area of the first frame

\* is larger than the area of the second frame.

\* This is a class method instead of an instance method.

\*/

public static boolean isFirstLargerThan(JFrame frame1, JFrame frame2) {

return frame1.getHeight() \* frame1.getWidth() >

frame2.getHeight() \* frame2.getWidth();

}

}