**EXERCISE 6:**

**PROXY PATTERN EXAMPLE**

interface Image {  
 void display();  
}  
  
class RealImage implements Image {  
 private String filename;  
  
 public RealImage(String filename) {  
 this.filename = filename;  
 loadImageFromDisk();  
 }  
  
 private void loadImageFromDisk() {  
 System.*out*.println("Loading image from disk: " + filename);  
 // Simulate loading image from a remote server  
 }  
  
 @Override  
 public void display() {  
 System.*out*.println("Displaying image: " + filename);  
 }  
}  
  
class ProxyImage implements Image {  
 private String filename;  
 private RealImage realImage;  
  
 public ProxyImage(String filename) {  
 this.filename = filename;  
 }  
  
 @Override  
 public void display() {  
 if (realImage == null) {  
 realImage = new RealImage(filename);  
 }  
 realImage.display();  
 }  
}  
public class ProxyPatternExample {  
 public static void main(String[] args) {  
 Image image1 = new ProxyImage("image1.jpg");  
 Image image2 = new ProxyImage("image2.jpg");  
 image1.display();  
// System.out.println("");  
 image1.display();  
// System.out.println("");  
 image2.display();  
// System.out.println("");  
 image2.display();  
 }  
}