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**Exercise 6: Implementing the Proxy Pattern**

**Scenario:**

You are developing an image viewer application that loads images from a remote server. Use the Proxy Pattern to add lazy initialization and caching.

**Steps:**

1. Create a New Java Project:

Create a new Java project named ProxyPatternExample.

2. Define Subject Interface:

Create an interface Image with a method display().

3. Implement Real Subject Class:

Create a class RealImage that implements Image and loads an image from a remote server.

4. Implement Proxy Class:

Create a class ProxyImage that implements Image and holds a reference to RealImage.

Implement lazy initialization and caching in ProxyImage.

5. Test the Proxy Implementation:

Create a test class to demonstrate the use of ProxyImage to load and display images.  
**output:**

