**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:**

A new Java project is created and is named as **ProxyPatternExample**.

1. **Define Subject Interface:**

An interface Image with a method **display()** is created. The implementation is provided in the wordpad.

1. **Implement Real Subject Class:**

A class **RealImage** is created that implements Image and loads an image from a remote server. The implementation code is provided in the wordpad.

1. **Implement Proxy Class:**
   * A class **ProxyImage** is created that implements Image and holds a reference to RealImage.
   * The lazy initialization is implemented and caching in **ProxyImage**.
   * The implementation code is provided un the wordpad.
2. **Test the Proxy Implementation:**

A test class is created to demonstrate the use of **ProxyImage** to load and display images. The implementation code is provided in the wordpad.