1. Swap two numbers using a temporary variable

```
public class SwapWithTemp {
    public static void main(String[] args) {
        int a = 10, b = 20;
        int temp = a;
        a = b;
        b = temp;

        System.out.println("a = " + a + ", b = " + b);
    }
}
```

2. Swap two numbers without using a temporary variable

```
public class SwapWithoutTemp {
    public static void main(String[] args) {
        int a = 5, b = 7;
        a = a + b;
        b = a - b;
        a = a - b;

        System.out.println("a = " + a + ", b = " + b);
    }
}
```

3. Demonstrate variable shadowing within a class and method

```
public class VariableShadowing {
    int number = 100;

    public void display() {
        int number = 50;
        System.out.println("Local: " + number);
        System.out.println("Instance: " + this.number);
    }

    public static void main(String[] args) {
        new VariableShadowing().display();
    }
}
```

4. Declare a constant and use it in calculations

```
public class ConstantUsage {
    public static final double PI = 3.14159;

    public static void main(String[] args) {
```

```
        double radius = 5.0;
        double area = PI * radius * radius;
        System.out.println("Area = " + area);
    }
}
```

5. Create a class with instance, static, and local variables and demonstrate scope

```
public class ScopeDemo {
    int instanceVar = 10;
    static int staticVar = 20;

    public void show() {
        int localVar = 30;
        System.out.println("Instance: " + instanceVar);
        System.out.println("Static: " + staticVar);
        System.out.println("Local: " + localVar);
    }

    public static void main(String[] args) {
        ScopeDemo obj1 = new ScopeDemo();
        obj1.instanceVar = 100;
        ScopeDemo obj2 = new ScopeDemo();
        obj2.instanceVar = 200;

        ScopeDemo.staticVar = 300;

        obj1.show();
        obj2.show();
    }
}
```