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package Variables;
//Challenge: Swap two numbers using a temporary variable.
public class Challenge1 {
    public static void main(String[] args) {
        int a = 2;
        int b = 5;
        int c = a;
        System.out.println("Number before swap: a="+a+" b="+b);

        a = b;
        b = c;
        System.out.println("Number after swap: a="+a+" b="+b);
    }
}
```

```
package Variables;
//Challenge: Swap two numbers without a temporary variable.
public class Challenge2 {
    public static void main(String[] args) {
        int a = 2;
        int b = 5;
        System.out.println("Number before swap: a="+a+" b="+b);

        a = a+b;
        b = a-b;
        a = a-b;
        System.out.println("Number after swap: a="+a+" b="+b);
    }
}
```

```
package Variables;
//Challenge: Demonstrate variable shadowing within a class and method.
public class Challenge3 {
    int number = 10;
    void showNumber() {
        int number = 20;
        System.out.println("Local variable: " + number);
        System.out.println("Instance variable: " + this.number);
    }
    public static void main(String[] args) {
        Challenge3 obj = new Challenge3();
        obj.showNumber();
    }
}
```

```
package Variables;
//Challenge: Declare a constant and use it in calculations
public class Challenge4 {
    public static final int a = 2;
    public static void main(String[] args) {
        int b = 3;
        System.out.println("a * b = " + (a*b));

        b = 6;
        System.out.println("a * b = " + (a*b));

    }
}
```

```
package Variables;
//Challenge: Create a class with instance, static, and local variables and demonstrate scope.
public class Challenge5 {
    int a = 4; //instance
    static int b = 5; //static

    public void variables(){
        int c = 6;
        System.out.println("a is an instance variable: " + a);
        System.out.println("b is a static variable: " + b);
        System.out.println("c is a local variable: " + c);
    }
    public static void main(String[] args) {
        Challenge5 obj = new Challenge5();
        obj.variables();

    }
}
```