DAY 1: INTRODUCTION TO INTERFACES, CLASSES, AND OBJECTS

The Randomizer interface:

```
01 public interface Randomizer {
02    // Getters
03    public int getPossibleOutcomes();
04    public int getCurrentValue();
05    public String getCurrentFace();
06
07    // Setters (or Mutators)
08    public void randomize();
09 }
```

The Coin Randomizer Class:

```
01 // Class Name and Interface Implemented by Class
02 public class Coin implements Randomizer {
03 // Instance Variables
04    private boolean isHeads;
05
06 // Constructors
07    public Coin() {
08       randomize();
09    }
10 // Getter Methods
11    public int getPossibleOutcomes() {
12       return 2;
13    }
14    public int getCurrentValue() {
15       if (isHeads==true) return 1;
16       return 0;
17    }
18    public String getCurrentFace() {
19       if (isHeads==true) return "Heads";
20       return "Tails";
21    }
22 // Setter Methods (a.k.a. Mutators)
23    public void randomize() {
24       isHeads=Math.random()<.5;
25    }
26 }
```

The Coin Runner Class:

```java
01 public class CoinRunner {
02   public static void main(String[] args) {
03     Coin myCoin = new Coin();
04     System.out.println(myCoin.getCurrentFace());
05     int countHeads=0;
06     for (int i=0; i<10; i++) {
07       myCoin.randomize();
08       if (myCoin.getCurrentValue()==1) {
09         countHeads++;
10       }
11       System.out.println(myCoin.getCurrentFace());
12     }
13     System.out.println("Heads="+countHeads);
14   }
15 }
```