# Instance Variables

```
import acm.program.*;

public class MyProgram extends ConsoleProgram {

  public void run() {
     balance = 0;
     for(int i = 0; i < 5; i++) {
        int value = readInt("Value? ");
        addToBalance(value);
     }
  }

  private void addToBalance(int val) {
     balance += val;
  }

  /* Private instance variables */
  private int balance;
}
```

And now a word from our friend…
the Random Number Generator

# RandomGenerator

```
import acm.program.*;
import acm.util.*;

public class SimpleRandom extends ConsoleProgram {


  public void run() {
     // Will fill in shortly
  }

  /* Private instance variables */
  private RandomGenerator rgen =
                  RandomGenerator.getInstance();
}
```

# Methods to Generate Random Values

The **`RandomGenerator`** class defines the following methods:

| |
|---|
| **`int nextInt(int low, int high)`**<br>Returns a random **`int`** between **`low`** and **`high`**, inclusive. |
| **`int nextInt(int n)`**<br>Returns a random **`int`** between 0 and **`n`** − 1. |
| **`double nextDouble(double low, double high)`**<br>Returns a random **`double`** *d* in the range **`low`** ≤ *d* < **`high`**. |
| **`double nextDouble()`**<br>Returns a random **`double`** *d* in the range 0 ≤ *d* < 1. |
| **`boolean nextBoolean()`**<br>Returns a random **`boolean`** value, which is **`true`** 50 percent of the time. |
| **`boolean nextBoolean(double p)`**<br>Returns a random **`boolean`**, which is **`true`** with probability **`p`**, where 0 ≤ **`p`** ≤ 1. |
| **`Color nextColor()`**<br>Returns a random color. |

# Simple Random Example

```
import acm.program.*;
import acm.util.*;

public class SimpleRandom extends ConsoleProgram {

  public void run() {
      int dieRoll = rgen.nextInt(1, 6);
      println("You rolled " + dieRoll);
  }

  /* Private instance variables */
  private RandomGenerator rgen =
                  RandomGenerator.getInstance();
}
```