```
 1  // Example 4.2 joi/examples/ArrayDemo.java
 2  //
 3  //
 4  // Copyright 2003 Bill Campbell and Ethan Bolker
 5
 6  // A class illustrating arrays
 7  //
 8  // Build an array of Fibonacci numbers 1, 1, 2, 3, 5, 8, ...
 9  // and play with it. Sample output:
10  //
11  // %> java ArrayDemo 8
12  // Sum first 8 Fibonacci numbers
13  // 1 1 2 3 5 8 13 21
14  // total: 54
15  //
16  // First 8 Fibonacci numbers (reverse order)
17  // 21 13 8 5 3 2 1 1
18  // Every other fib
19  // 1    1
20  // 3    2
21  // 5    5
22  // 7    13
23
24  public class ArrayDemo
25  {
26      public static void main( String[] args )
27      {
28          int n = 6; // default
29          if (args.length > 0) {
30              n = Integer.parseInt(args[0]);
31          }
32
33          int[] fibs = new int[n]; // declare and create array
34
35          fibs[0] = fibs[1] = 1;   // fill first two positions
36          for ( int i = 2; i < n; i++ ) { // fill the rest
37              fibs[i] = fibs[i-1] + fibs[i-2];
38          }
39
40          // standard idiom for accumulating total of an array
41          int total = 0;
42          System.out.println("Sum first " + n + " Fibonacci numbers");
43          for ( int i = 0; i < n; i++ ) {
44              System.out.print(fibs[i] + " ");
45              total += fibs[i];
46          }
47          System.out.println("\ntotal: " + total);
48          System.out.println();
49
50          System.out.
51              println("First " + n + " Fibonacci numbers (reverse order)");
52          for ( int i = n-1; i >= 0 ; i-- ) {
53              System.out.print(fibs[i] + " ");
54          }
55          System.out.println();
56
```



```
57          System.out.println("Every other fib");
58          for ( int i = 0; i < n ; i += 2 ) {
59              System.out.println((i+1) + "\t" + fibs[i]);
60          }
61          System.out.println();
62      }
63  }
```