```
1      /**
2       * Constructor.
3       * @param modem number of modems.
4       * @param avgLen averge length of a call.
5       * @param callIntrvl the average time between calls.
6       */
7      public ModemSim( int modems, double avgLen,
8                       long callIntrvl )
9      {
10         eventSet    = new BinaryHeap( new Event( ) );
11         freeModems  = modems;
12         avgCallLen  = avgLen;
13         freqOfCalls = callIntrvl;
14         r           = new Random( );
15         nextCall( freqOfCalls );  // Schedule first call
16     }
```

Figure 13.7 `ModemSim` constructor

The modem simulation class, `ModemSim`, is shown in Figure 13.6. It consists of a host of data fields, a constructor, and two methods. The data fields include a random-number object `r` shown at line 22. At line 23, the `eventSet` is maintained as a `PriorityQueue` of `Event` objects. There are three remaining data fields. One is `freeModems`, which is initially the number of modems in the simulation but which changes as users connect and hangup. The other two are `avgCallLen` and `freqOfCalls`, which are parameters of the simulation. Recall that a dial-in attempt will be made every `freqOfCalls` ticks. The constructor at lines 15 and 16 that is implemented in Figure 13.7 initializes these fields and places the first arrival in the `eventSet` priority queue.

```
1          // Used by nextCall only
2      private int  userNum = 0;
3      private long nextCallTime = 0;
4
5      /**
6       * Place a new DIAL_IN event into the event queue.
7       * Then advance the time when next DIAL_IN event will
8       * occur. In practice, we would use a random number to
9       * set the time.
10      */
11     private void nextCall( long delta )
12     {
13         eventSet.insert( new Event( userNum++, nextCallTime,
14                                     Event.DIAL_IN ) );
15         nextCallTime += delta;
16     }
```

Figure 13.8 `nextCall`: Place a new `DIAL_IN` event into the event queue and advance the time when the next `DIAL_IN` event will occur