

```

1  public class Universal {
2      private Node[] announce; // array added to coordinate helping
3      private Node[] head;
4      private Node tail = new Node();
5      public Universal() {
6          tail.seq = 1;
7          for (int j = 0; j < n; j++) {
8              head[j] = tail;
9              announce[j] = tail;
10         }
11     }
12     public Response apply(Invoc invoc) {
13         int i = ThreadID.get();
14         announce[i] = new Node(invoc);
15         head[i] = Node.max(head);
16         while (announce[i].seq == 0) {
17             Node before = head[i];
18             Node help = announce[(before.seq + 1) % n];
19             if (help.seq == 0)
20                 prefer = help;
21             else
22                 prefer = announce[i];
23             Node after = before.decideNext.decide(prefer);
24             before.next = after;
25             after.seq = before.seq + 1;
26             head[i] = after;
27         }
28         head[i] = announce[i];
29         SeqObject myObject = new SeqObject();
30         Node current = tail.next;
31         while (current != announce[i]){
32             myObject.apply(current.invoc);
33             current = current.next;
34         }
35         return myObject.apply(current.invoc);
36     }
37 }

```

FIGURE 6.6 The wait-free universal construction.