

# Worksheet: Interaction between finish and actors

What output will be printed if the end-finish operation is moved from line 13 to line 11 as shown below?

```
1. finish(() -> {
2.     int threads = 4;
3.     int numberOfHops = 10;
4.     ThreadRingActor[] ring = new ThreadRingActor[threads];
5.     for(int i=threads-1;i>=0; i--) {
6.         ring[i] = new ThreadRingActor(i);
7.         ring[i].start();
8.         if (i < threads - 1) {
9.             ring[i].nextActor(ring[i + 1]);
10.        } }
11. }); // finish
12.ring[threads-1].nextActor(ring[0]);
13.ring[0].send(numberOfHops);
14.
```

**Deadlock (no output): the end-finish operation in line 11 waits for all the actors started in line 7 to terminate, but the actors are waiting for the message sequence initiated in line 13 before they call exit().**

