Worksheet: impact of distribution on parallel completion time

1. public void sampleKernel(
2.     int iterations, int numChunks, Distribution dist) {
3.     for (int iter = 0; iter < iterations; iter++) {
4.         finish(() -> {
5.             for (0, numChunks - 1, (jj) -> {
6.                 asyncAt(dist.get(jj), () -> {
7.                     doWork(jj);
8.                     // Assume that time to process chunk jj = jj units
9.                 });
10.             });
11.         });
12.     } // for iter
13. } // sample kernel

• Assume an execution with n places, each place with one worker thread
• Will a block or cyclic distribution for dist have a smaller abstract completion time, assuming one worker per place?
• Answer: Cyclic distribution because it leads to better load balance (locality was not a consideration in this problem)