See the first 15 minutes of the Lecture 3.7 video for Programming Paradigms on iTunes U for a discussion of this assignment.

Write your solutions using a text editor or word processor. Hand them in electronically as a PDF file named `a17written.pdf` per the instructions for your course. Note that you cannot simply change the file extension of a word processing document to `.pdf`. You must save the document as a PDF document.

1. Do Ben-Ari, Exercise 2.5.
    Assume weakly fair scenarios for Algorithms Zero A and Zero B. Do *not* assume weakly fair scenarios for Algorithm Zero C.

    For all five parts of the problem, assume that $f(2) = 0$ and that $f(i) \neq 0$ for all $i \neq 2$. Your solution should be a sequence of p's and q's that produce an incorrect result. Here is a sequence of p's and q's for Algorithm Zero A.

    p1 (*found ← false*), q1 (*found ← false*), p2, p3 ($i ← 1$), p4 (*found ← false*), p2, p3 ($i ← 2$), p4 (*found ← true*), p2 (end), q2 (end)

    This scenario does *not* produce an incorrect result, because process p found the zero at $f(2)$, and the processes terminated at p2 and q2 because *found* was *true*. Your task is to find a scenario that *does* produce an incorrect result.

    Be alert to the fact that one of the algorithms might deadlock, and identify which one that is. A deadlock is when both processes are stuck at an `await` statement and neither process can continue.

2. Do Ben-Ari, Exercise 2.9.

3. Do Ben-Ari, Exercise 2.10.