Quiz 4

Name: ________________________________

1. A recursive procedure for powering

In class, we covered a fast, iterative procedure for raising a number \( x \) to the power \( n \), that takes time proportional to \( \log n \). Write a simple recursive procedure to do the same. (You may use "pseudocode" or any programming language. The precise syntax is not important.)

Hint: For recursion, separate the cases: \( n \) is even or odd. Also remember the base case.

2. The following questions concern the article on the Java Virtual Machine that was handed out last week:

(a) The article claims that the concept of JVM makes Java more portable. Explain how.
(b) Give one-sentence definitions for each of the following components of the Java Virtual Machine: the stack, the program counter, and the heap.