CS286–Computer Organization & Architecture
Possible Quiz Questions (Quiz #9)
For October 29th

The following is a list of possible questions for our quiz on October 29th. Some of the questions will not be asked in the quiz. All the questions that will appear in the quiz will appear exactly as shown below (however, numeric parameters may be changed). The quiz is closed textbook, closed notes and closed neighbors. Note that the questions, which did not appear in this quiz, still may appear in the exams. You will find a solution for these questions during lectures.

Part I: Memory subsystem

#8: How software developers take advantage of “locality memory reference” when they are designing application programs?

Knowing how many memory page(s) will be assigned to a program, (human) programmers should try to implement anything that is expected to be repeated for a large number of times (e.g., “for” and “while” loops in the program) to fit in the “working set” of the program. That way, those loop structures in a program will execute as fast as it can (because the number of page faults will be reduced).

#9: What is “sequential memory access”? Mention the name of data structure that is accesses using the concept of “sequential memory access”?

I assume each of you takes care of the first question (“What is sequential memory access?”), but the suggested solution for the second question is:

Arrays

#10: What is “random memory access”? Mention the name of data structure that is accesses using the concept of “random memory access”?

I assume each of you takes care of the first question (“What is “random memory access?”), but the suggested solution for the second question is:

Linked-lists