Possible Quiz Questions (Quiz #8) on November 7th, 2022

The following is a list of possible questions for our quiz on November 7th. 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.

#1: What is “memory paging”? 

#2: What is “virtual memory”? 

#3: How does “virtual memory (using memory paging)” eliminate “external (memory) fragmentation” (explain “how”)?

#4: What is “internal (memory) fragmentation”? 

#5: What is “page fault” (make sure to answer this question using the appropriate technical term(s) the CS286 lectures already covered)? 

#6: What is “valid flag” used in virtual memory for? 

#7: Sketch the contents in VMT (virtual memory table). 

#8: What is the primary problem in virtual memory? 

#9: How is “dirty flag” used in virtual memory for (also explain its primary purpose)? 

#10: What is “demand paging”? What is the primary advantage? 

#11: What are the primary advantages in using “virtual memory (using demand paging)”? Mention at least three different advantages in using “virtual memory”. 

#12: In the virtual memory (as we discussed in the classroom), how many disk accesses can happen in the worst case? 

#13: Sketch the structure of “segmentation table (or “segmentation descriptor table”)”. 

#14: What is the advantage of using segmentation?
#15: How is “segmentation fault” caused (make sure to answer this question using the appropriate technical term(s) the CS286 lectures already covered)?

#16: Which of “page fault” or “segmentation fault” is fatal?