CSCI 3323 (Principles of Operating Systems), Fall 2020
Reading Quiz 6

Credit: 10 points.

1   Reading

Be sure you have read, or at least skimmed, Chapter 3.

2   Instructions

Answer the questions below using *only* the course textbook (i.e., no Web searches). Please work independently rather than in groups, and include the Honor Code pledge in what you turn in, either the full pledge or just the word "pledged".

You may write out your answers by hand and scan them, or you may use a word processor or other program, but please submit a PDF or plain text via e-mail to my TMail address. (No links to shared files on Google Drive please.) Please use a subject line that mentions the course and the assignment (e.g., "csci 3323 quiz 6" or "O/S quiz 6").

3   Questions

1. (2 points) What's the purpose of a page replacement algorithm?

2. (2 points) Many page replacement algorithms are based on tracking or approximating time of last use for each page. How is this useful?

3. (2 points) The textbook says many page table entries include so-called R and M bits. What sets them (to 1), hardware or operating system, and when? What clears them (to 0), hardware or operating system, and when?

4. (2 points) What are two reasons shared libraries are attractive? Can any arbitrary machine-language code be included in them?

5. (2 points) Implementing paging requires cooperation between hardware (the MMU) and the operating system. If the page table shows "invalid" for a page, it can be either a bad address or one paged out. What (MMU or O/S) determines that?