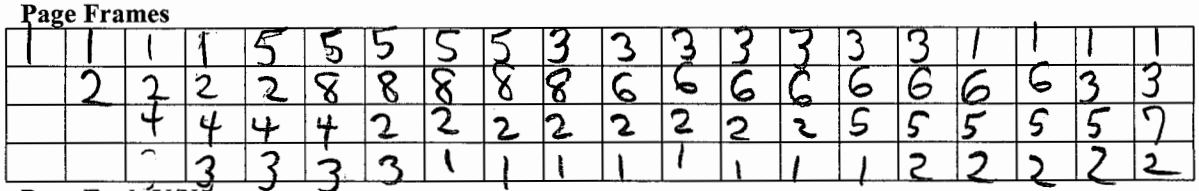
Score:_____ Name:_____

ECE 3055 Quiz 13 - April 22, 2009

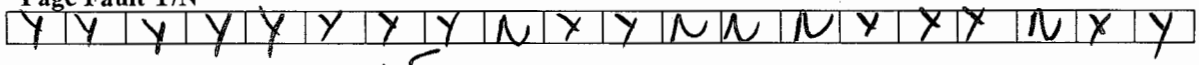
1-3. Determine the number of page faults that will occur in the following page reference string assuming 4 page frames are available. All frames are initially empty.

1, 2, 4, 3, 5, 8, 2, 1, 2, 3, 6, 1, 2, 6, 5, 2, 1, 2, 3, 7

Page Frames

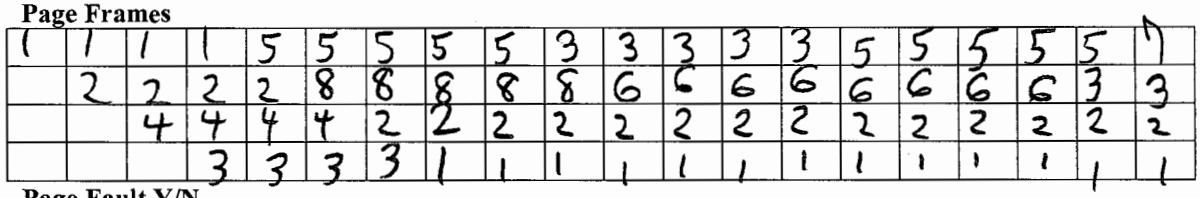


Page Fault Y/N

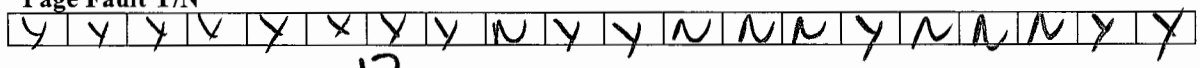


1. With the FIFO algorithm, 15 page faults will occur.

Page Frames

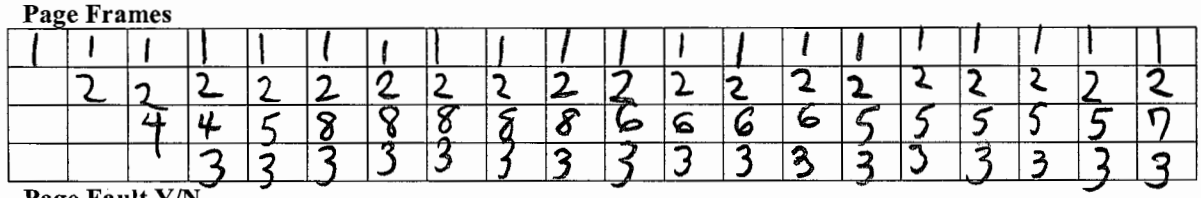


Page Fault Y/N

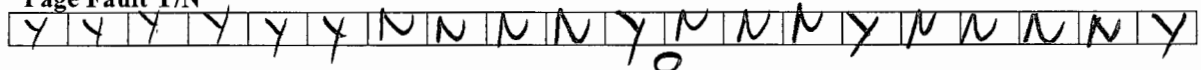


2. With the LRU algorithm, 13 page faults will occur.

Page Frames



Page Fault Y/N



3. With the best possible algorithm, a minimum of 9 page faults will occur.

4. What happens to performance when physical memory is over allocated to too many active processes in a virtual memory system resulting in numerous page faults and what is the term used to describe it?

the system spends all of its time on I/O to swap pages and performance drops. It is called thrashing

5. What is the problem with using a single level VM page table and why are more complex schemes often used?

It can take large amounts of physical memory for the page table. (see page 337)