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Bonus Assignment

CS 3100

12/10/15

1. Compile time binding
2. It handles all memory and caching operations
3. transfer time and amount of memory swapped, transfer time is the biggest factor
4. First fit allocates the first hole big enough, it allows us to stop searching once we found a hole large enough. Best fit allocates the smallest hole that is big enough but this requires searching the entire list but it produces the smallest leftover hole whereas first fit just finds the first hole large enough and can have excess leftover
5. External fragmentation is when there is enough memory for a request but the memory isn’t contiguous, internal fragmentation is when there is memory allocated that is slightly larger than the requested memory
6. Segmentation has access to segments that are mapped using a segment table, these segments have a two-dimensional address. Segmentation requires compaction whereas paging doesn’t. Paging also avoids external fragmentation. Paging uses the page table to access frames and pages
7. Page number and offset
8. It resolves the problem when changing a page table and you need to make two accesses to memory which is a lot of overhead so the TLB acts a cache between the pages. A major limitation is the odds of a TLB miss and the overhead that is required to deal with the miss
9. By using a hashed page table
10. An inverted page table, it has one entry for each real page and contains information about virtual addresses in order to access them
11. The MMU deals with segmentation and paging
12. Only brings in pages when they are needed, lowers number of page faults, faster performance at runtime, ability to recover from page faults
13. Locality of reference is knowing which locality(‘s) a process is going to head to so we can know certain references to memory locations for the specific localities
14. True, If we have to access less often, we can be ready to access more quickly when we actually need to
15. Giving each process (n) an equal number of frames (m/n)
16. They both get more than what is needed at the exact moment in preparation for the other pages the request will need
17. The way loops and data structures are set up may require more or simply inefficient order of paging which will decrease performance
18. RAID systems, disk formatting, and scheduling the order of disk I/O
19. A head crash

22. SAN is a storage-area-network and it’s different from a NAS because it is it’s own private network and doesn’t take away from the bandwidth on the data network

23. it starts at one end of the disk and moves toward the other end servicing request as it goes along until it reaches the other end