1. Which of the following is a benefit of allowing a program that is only partially in memory to execute?

Programs can be written to use more memory than is available in physical memory. | CPU utilization and throughput is increased. | Less I/O is needed to load or swap each user program into memory.

2. In systems that support virtual memory-

physical memory is separated from logical memory

3. The vfork() system call in UNIX ____.

allows the child process to use the address space of the parent

- 4. Suppose we have the following page ac- 8 cesses: 1 2 3 4 2 3 4 1 2 1 1 3 1 4 and that there are three frames within our system. Using the FIFO replacement algorithm-what is the number of page faults for the given reference string?
- 5. Suppose we have the following page ac- 3, 4, 2 cesses: 1 2 3 4 2 3 4 1 2 1 1 3 1 4 and that there are three frames within our system. Using the FIFO replacement algorithm-what will be the final configuration of the three frames following the execution of the given reference string?
- 6. Suppose we have the following page ac- 8 cesses: 1 2 3 4 2 3 4 1 2 1 1 3 1 4 and that there are three frames within our system. Using the LRU replacement algorithm-what is the number of page faults for the given reference string?
- 7. Given the reference string of page accesses: 1 2 3 4 2 3 4 1 2 1 1 3 1 4 and a system with three page frames- what is

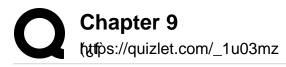
3, 1, 4

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the final configuration of the three frames after the LRU algorithm is applied?

8.	Belady's anomaly states that	for some page replacement al- gorithms, the page-fault rate may increase as the number of allocated frames increases
9.	Optimal page replacement	is used mostly for comparison with other page-replacement schemes.3
10	In the enhanced second chance algorithm- which of the following ordered pairs represents a page that would be the best choice for replacement?	
11	. The allocation algorithm allocates available memory to each process according to its size.	proportional
12	. The is the number of entries in the TLB multiplied by the page size.	TLB reach 1
13	allows the parent and child processes to initially share the same pages- but when either process modifies a page- a copy of the shared page is created.	copy-on-write
14	is the algorithm implemented on most systems. A) FIFO B) Least frequently used C) Most frequently used D) LRU D Feedback: 9.4 1 occurs when a process spends more time paging than executing.	Thrashing
15	. Windows uses a local page replacement policy	when a process exceeds its working set maximum

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16.	Which of the following statements is false with regard to Solaris memory management?	
17.	What size segment will be allocated for a 39 KB request on a system using the Buddy system for kernel memory allocation?	64 KB
18.	Which of the following statements is false with regard to allocating kernel memory?	•
19.	The is an approximation of a program's locality.	working set
20.	allows a portion of a virtual address space to be logically associated with a file.	Memory-mapping
21.	Systems in which memory access times vary significantly are known as	non-uniform memory access
22.	Which of the following is considered a benefit when using the slab allocator?	There is no memory fragmentation.
23.	In general- virtual memory decreases the degree of multiprogramming in a system.	False
24.	Stack algorithms can never exhibit Belady's anomaly.	True
25.	If the page-fault rate is too high- the process may have too many frames.	False
26.	The buddy system for allocating kernel memory is very likely to cause fragmentation within the allocated segments.	True



- 27. On a system with demand-paging- a True process will experience a high page fault rate when the process begins execution.
- 28. On systems that provide it- vfork() should False always be used instead of fork().
- 29. Only a fraction of a process's working set False needs to be stored in the TLB.
- 30. Solaris uses both a local and global page False replacement policy.
- 31. Windows uses both a local and global False page replacement policy.
- 32. A page fault must be preceded by a TLB True miss.
- 33. Non-uniform memory access has little ef- False fect on the performance of a virtual memory system.
- 34. In Linux- a slab may only be either full or False empty.