Virtual machine implementations involve several components. At the base is the host, the underlying hardware system that runs the virtual machines. The virtual machines create and run hypervisors by providing an interface that is identical to the host.

**True**

**False**

**[Hypervisor create and run virtual machines by providing an interface that is identical to the host.]**

**----**

Hardware virtualization, which is also known as --------------------- virtualization, allows hardware resources to be utilized more efficiently and for one machine to simultaneously run different operating systems.

**Software Virtualization**

**Network Virtualization**

**Server Virtualization**

**System Virtualization**

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------------------------------------- also divides available bandwidth into multiple, independent channels, each of which can be assigned to servers and devices in real time.

**Software Virtualization**

**Network Virtualization**

**Server Virtualization**

**System Virtualization**

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A hypervisor is hardware, software, or firmware capable of creating virtual machines and then managing and allocating resources to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Virtual Machine Managers

Virtual Machines

Operating Systems

Application Software

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In segmentation the pages of process are stored in the frames of main memory conditional to their availability of space in secondary memory.

**True**

**False**

**[In paging, the pages of process are stored in the frames of main memory depending upon their availability.]**

Caching is a possible solution to the internal-fragmentation problem is to allow the logical address space of processes to be non-contiguous, thus permitting a process to be allocated physical memory wherever memory is available.

**True**

**False**

**[Another possible solution to the external-fragmentation problem is to permit the logical address space of processes to be non-contiguous, thus allowing a process to be allocated physical memory wherever such memory is available.]**

In optimal page replacement, if the page number is found, its frame number is immediately available and is used to access memory

**True**

**False**

**[The TLB contains only a few of the page-table entries. When a logical address is generated by the CPU, the MMU first checks if its page number is present in the TLB. If the page number is found, its frame number is immediately available and is used to access memory.]**

With demand-paged virtual memory, pages are loaded only when they are demanded during program execution. Pages that are never accessed are thus never loaded into physical memory is termed as page fault.

**True**

**False**

**[The technique is known as demand paging and is commonly used in virtual memory systems. With demand-paged virtual memory, pages are loaded only when they are demanded during program execution. Pages that are never accessed are thus never loaded into physical memory]**

This working-set strategy prevents thrashing while keeping the degree of multiprogramming as high as possible. Thus, it optimizes CPU utilization.

**True**

**False**

**[This working-set strategy prevents thrashing while keeping the degree of multiprogramming as high as possible. Thus, it optimizes CPU utilization.]**

This high paging activity is called thrashing. A process is thrashing if it is spending more time paging than executing. As you might expect, thrashing results in severe performance problems.

**True**

**False**

**[This high paging activity is called thrashing. A process is thrashing if it is spending more time paging than executing. As you might expect, thrashing results in severe performance problems.]**