Assignment -

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C-2

Q.1 Identify the storage allocation scheme in which secondary can be addressed as thought it were part of main memory.?

Virtual memory is a memory management technique where secondary memory can be as used if it were a part of main memory. Virtual memory is a common technique used in a Computer's operating system. Virtual memory uses both software and hardware to enable a Computer to compensate for physical memory shortages, Mapping chunks of memory to disk files enables a computer to treat secondary memory as thought it were main memory.

Q.2 :- How Virtual memory works?

In modern world, Virtual memory has become quite common these days. In this scheme, whenever some pages need to be loaded in the main memory for the execution and the mem-ory is not available for those many pages, then in that case, instead of stopping the pages from entering in the main memory, the OS search for the RAM area that are least used in recent times or that are not referenced and copy that into the secondary memory to make the space for new page in the main memory.

Q.3 :- As demand paging is a popular method of virtual memory management. Explain in brief about it's need.

Demand paging is a popular method of virtual memory management. In demand paging, the pages of a processor which are least used, get stored in the secondary memory.

Page is copied to the main memory when it's demand is made or page fault occur. There are various page replacement algorithm which are used to determine the pages which will be replaced

Q.4 :- What are the advantages of using Virtual memory?

Advantages of Virtual memory are :-

1) By using Virtual memory many application or program can be executed at a time.

2) User can run large programs that have size greater than the main memory

3) The data which is common in memory can be shared b/w RAM and Virtual memory

4) The cost of buying extra RAM is saved by using Virtual memory.

Q.5 :- Explain in brief about page replacement.

In Virtual memory, page replacement algorithm plays an important role. The main objective of all the page replacement is to decrease the maximum number of page faults.

Page fault : It is basically a memory error, and it occur when the current program attempt to access the memory page for mapping into Virtual space.

Basic page replacement algorithm in OS :-

1) First of all, find the location of the desired page on the disk.
2) Find a free frame
3) After that read the desired page into the memory newly free frame and then change the page of frame tables.

Restart the process.