Outline of Lecture-06

- Background
- Partition Based Allocation
- Swapping
Important Points of Lecture-06

- Logic addresses and physical addresses [C]
- Partition-based memory management [A]
- External and Internal fragmentation [C]
- Swapping Concept and Procedure [B]
Outline of Lecture-07

- Virtual memory
- Page-based memory management
  - Page table and address translation
- Multi-level page table
- Translation lookaside buffer (TLB)
- Demand paging
- Thrashing and working set
- Page replacement
- Kernel memory management
- User-space memory management
Important Points of Lecture-07

- Why use virtual memory? Motivations [C]
- Virtual and physical address [C]
- Page offset, page number, frame number [C]
- Address translation based on a given page table [C]
- Design for one-level page table [C]
- Why one level page table should include all pages? [C]
- Why all entries should be physically continuous? [C]
- Trade-offs with smaller or larger page size [B]
- Benefits of multi-level page table [B]
Important Points of Lecture-07

- Memory requirement of two level page table [B]
- Designing two level page table [A]
- TLB concept [C]
- Integrating TLB with cache, memory (procedure) [C]
- Compute the effective access time [B]
- Concept of Demand Paging [B]
- Page fault procedure [B]
- Thrashing and locality [A]
- Working-set model [A]
- Page replacement (FIFO, Optimal, LRU) [C]
Important Points of Lecture-07

- Second chance algorithm [A]
- Comparisons of page replacement policies [B]
- Kernel buddy memory allocation [C]
- What are buddies [B]
- Slab allocation (benefits, and idea) [B]
- User space memory management [B]