1. Transfer rate of hard disk=60 MB/s Consider the following segment table

Segment Base Length

0 219 600

1 2300 14

2 90 100

3 1327 580

4 1952 96

What are the physical address for the following logical addresses ?

1. 0,430
2. 1,10
3. 2,500
4. 3,400
5. 4,112
6. How logical address is divided in Pentium paging with neat diagram. What is the role of CR3 register?
7. What is the advantage of buddy system? Assume the size of memory segment is initially 256KB and the kernel request is 9KB. How power of 2 allocator works for this kernel request? Show diagrammatically.
8. Use following page replacement algorithm and find out number of page faults for the following page reference string. Consider 3 frames.

9, 5, 4, 2, 5 , 8, 9, 1, 2 ,4 , 5, 5, 3, 8, 2, 5, 3, 2, 0

* 1. LRU
  2. FIFO

1. Given memory partitions of 100 KB, 500 KB, 200 KB, 300 KB and 600 KB (in order),

how would each of the first-fit, best-fit and worst-fit algorithms place processes of 212

KB, 417 KB, 112 KB and 426 KB (in that order) ? Which algorithm makes the most efficient use of memory?