ASSIGNMENT 2

22CST404: OPERATING SYSTEMS

1. Consider a system consisting of m resources of the same type, being shared by n processes. Resources can be requested and released by processes only one at a time. Show that the system is deadlock-free if the following two conditions hold:

   i) The maximum need of each process is between 1 and m resources

   ii) The sum of all maximum needs is less than m + n **CO3**

2. Compare the memory organization schemes of pure paging and pure segmentation with respect to the following issues:

   (i) External Fragmentation
   (ii) Internal Fragmentation **CO4**

3. Explain with the help of supporting diagram, how translation look-aside buffer (TLB) improves the performance of a paging system. **CO4**

4. Discuss various methods of file allocation with advantages and disadvantages. **CO5**

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