

1. A file system uses 4KB disk blocks and 32 bits block addresses. i-nodes are used to keep track of blocks allocated to a file. Each i-node has 12 direct block addresses, one single indirect block address, one double indirect block address, and one triple indirect block address. What is the large possible file size on such file system?
2. Would contiguous allocation be a good file allocation scheme for (i) flash storage in a digital camera? (ii) harddisk storage on a digital video recorder?
3. In the design we discussed in class, the i-nodes are kept at the start of the disk. An alternative design is to allocate an i-node only when a file is created and place the i-node at the start of the first block of the file.

Discuss the pros and cons of this alternative.

4. Consider a file system that uses i-nodes. Suppose that you are uploading a huge file to your friend.
 - (a) While the file is still being uploaded, you decided to move the file into a different directory (on the same file system). Should this be allowed? Justify your answer.
 - (b) What if you want to move the file to a different disk partition. Should this be allowed? Justify your answer.