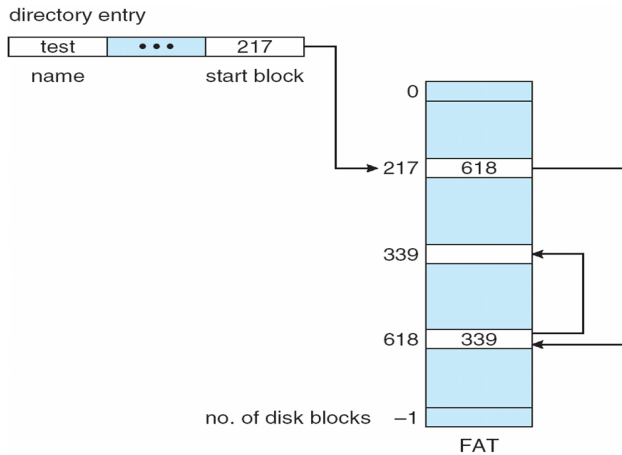


CSCI 315 Operating Systems Design

Activity 27

- 1) The diagram below illustrates the implementation of a directory in the FAT32 file system. Compare it to the implementations of directories using contiguous, linked, and indexed allocation and describe the advantages and the disadvantages you observe.



- 2) The diagram below illustrates the implementation of the UNIX inode, in a file system with 4KB per block and 32-bit addresses (pointers). This inode, reserves 12 pointers to address direct blocks. The three additional pointers in the inode are used for single, double, and triple indirect addressing of data blocks - these pointers lead to index blocks that don't contain data, but rather additional addresses. **Determine:** (a) the size of the largest file that uses only direct block addressing and (b) the size of the largest file that uses direct plus single indirect addressing. Identify the advantages and the disadvantages that this structure has over simple indexed allocation.

