Report

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Design details:

- The memory resident file system consists of sequence of blocks, numbered as 0,1, 2, etc., with block size of 256 bytes. The block number is considered as a 32-bit integer.
- The file system will consist of three regions: (a) super block, (b) inode list, (c) data blocks.
- The super block will contain information about the file system, like total size, maximum number of inodes, actual number of inodes being used, maximum number of disk blocks, actual number of disk blocks being used, and bitmaps to keep track of the free disk blocks and inodes.
- The index node (inode) list will consist of a set of blocks (decided to be 96 but can be changed by altering the value of myfs_inodes) that will store the inodes in a sequential manner; inodes will be numbered as 0, 1, 2, etc. Each file inode will consist of the file type (0 for regular, or 1 for directory), file size in bytes (32 bits), time last modified, time last read, access permissions, and pointers to data blocks. Each pointer will be 32 bits in size, and will contain a block number. Assume there are 8 direct blocks, 1 indirect block, and 1 doubly indirect block.
- The data blocks contains the actual data being stored in the files and directories.
- Each directory is stored as a file, where each directory entry is stored as 32 bytes, 30 bytes for the file name, and 2 bytes for the corresponding inode number. Therefore, 8 directory entries can be stored in every block.

All the functions have been implemented...

Compiling Instructions :

- Make command will compile all the test files.
- Make clean command cleans all four executables.