## CS 537: Intro to Operating Systems (Summer 2017) Worksheet 19 - Log-structured File Systems (LFS)

**DUE:** Aug 10<sup>th</sup> 2017 (Thursday)

LFS has a bunch of data structures, including some new ones that typical file systems like FFS don't have. Here is a list of some important ones:

- 1. inode
- 2. data block
- 3. segment summary block
- 4. inode map
- 5. checkpoint region

In this question, you will write down which data structures are accessed from the disk

	mplete a particular operation. Assume you start with nothing in memory; thus, you read everything you need to read in order to complete the request.
a.	Given the inode number of a file, which structures must you read in order to calculate the location of the inode on disk?
b.	Given the inode number of a file, which structures must you read in order to read the inode from disk?
c.	Given the inode number of a file, which structures must you read in order to read the first data block of the file from disk?

- d. Given the inode of a directory containing a file, which data structures must you read in order to read the first data block of the file?
- e. Given a data block on disk, which data structures must you read in order to determine whether the block is live or not?