

Lab 8: Investigation of File Systems

Due Dec 7th (Worth 30 Points)

This is a three-week lab designed to give you hands-on experience with key features of filesystems. The lab is due on December 7th at 23:59:59 and there will be no extensions. I recommend that you complete your weekly assignments on time.

Week 1: November 17th

A disk can be modeled as a set of fixed-sized data blocks – like the backing store you created in Lab 7. This time use 100 blocks, each 10 bytes long. The size of your disk is 1000 bytes.

An i-node is a data structure used in Unix and Linux operating systems. It defines an ordered set of disk blocks. The blocks are not generally contiguous. Find or create an input file with 70 bytes. We want to copy this file onto your simulated disk. Copy your input file, in 10-byte blocks, onto your modeled disk. Select disk blocks (from 0 to 99) at random. Copy the block from your input file to the randomly selected disk block. Use the i-node as a list that records which block you randomly selected and wrote to.