

CS 450 Operating Systems

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Group#4 Programming Assignment 4

Build & Run Instructions

Simply build the xv-6 repository with the following command:

$ make clean

If there are some permission errors, execute the following command:

$ sudo chmod -R 777 filepath

After it builds, make and start the emulator by typing in:

$ make qemu-nox

This should now open the CS450$ prompt to type in commands.

There are 5 programs to help run the assignment

directoryWalker

The program will also write out the inode associated with each file and directory.

$ directoryWalker

inodeTBWalker

Print out all allocated inodes and get this set of inodes from the inode table.

$ inodeTBWalker

CompareWalker

Compare the inode related output of two Walkers.

$ compareWalker

damageDirInode

Corrupting a file system

$ damageDirInode

Repairing Files

The following sequence will repair any inodes that are damaged:

$ directoryWalker

$ inodeTBWalker

$ compareWalker



$ damageDirInode

$ recoverFile

NOTE: RUN ALL THE COMMANDS IN ORDER

TEST PROGRAM

Here is a sample program that can be used to test the walkers and programs

$ mkdir hello

$ mkdir hello1

$ directoryWalker

$ inodeTBWalker

$ compareWalker

$ damageDirInode[insert inode of hello]

Repair using:

$ directoryWalker

$ inodeTBWalker

$ compareWalker

$ recoverFile

Verify results:

$ directoryWalker

$ inodeTBWalker

$ compareWalker