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Homework 4 Report

I used an Ubuntu virtual machine using Oracle VM VirtualBox for this homework. The program was written in gedit. It was compiled by gcc in the Ubuntu terminal.

The program starts by reading in arguments from the command line. If there are no arguments or more than fifty arguments, it exits with failure. Otherwise, it opens the file given in each argument. If the file is opened successfully, it uses fstat to store its information in a stat structure called info before closing the file. It then outputs the information stored in info.

Once the program has cycled through each argument, it uses getrusage to store its information in a rusage structure called usage. It then converts the user and system times to microseconds by multiplying the seconds by 1,000,000 and adding it to the microseconds. Finally, it outputs the user and system times before exiting successfully.

I tested this program using three test files called test1.txt, test2.txt, and test3.txt. These files simply numbered the lines and had 10, 20, and 30 lines respectively. I tested it with every combination of these files, and it passed every test.