Operating Systems Lab - CS 314

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1 Abstract

The task in this lab is to implement immediate files in the Minix File System, for files of size up to 32 bytes. This implementation is only for the file system mounted at `/home`.

1.1 Functionalities & Micro Tasks

- ***File Creation:*** The start has to be done by creating the file as an immediate one. When a file grows beyond 32B, then it has to be made into a regular file.
- ***File Read:*** If it is an immediate file, it has to be responded with the inode structure contents. If not, it has to follow the default behavior of looking up zones.
- ***File Write:*** The task is similar to read. The care has to be taken to ensure that if inode structure has to be written, then the new file size is still within 32B. When a regular file shrinks to less than 32 bytes, there is no need to come back to immediate mode.
- ***File Delete:*** The deleting of immediate files does not require any handling of zones.

2 Images & Proof of Concept

The following section shows the images as the proof of concept to the code altered to accommodate required statements.

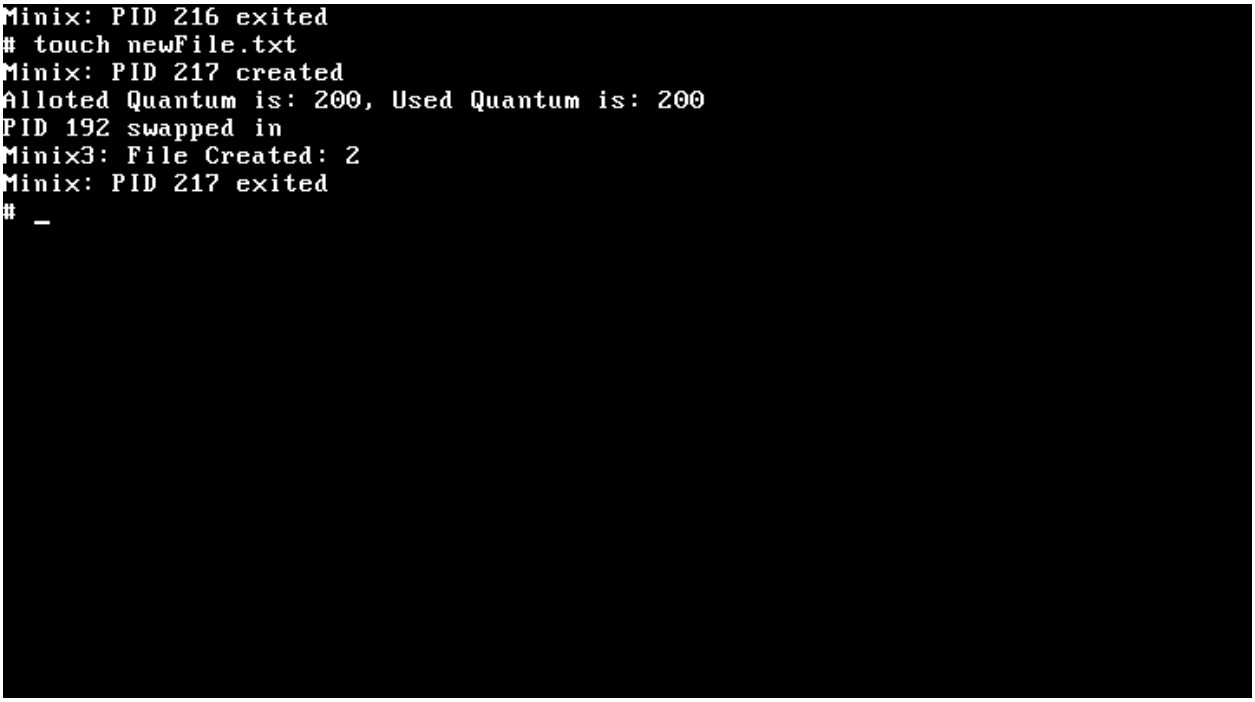

Figure 1: File Creation

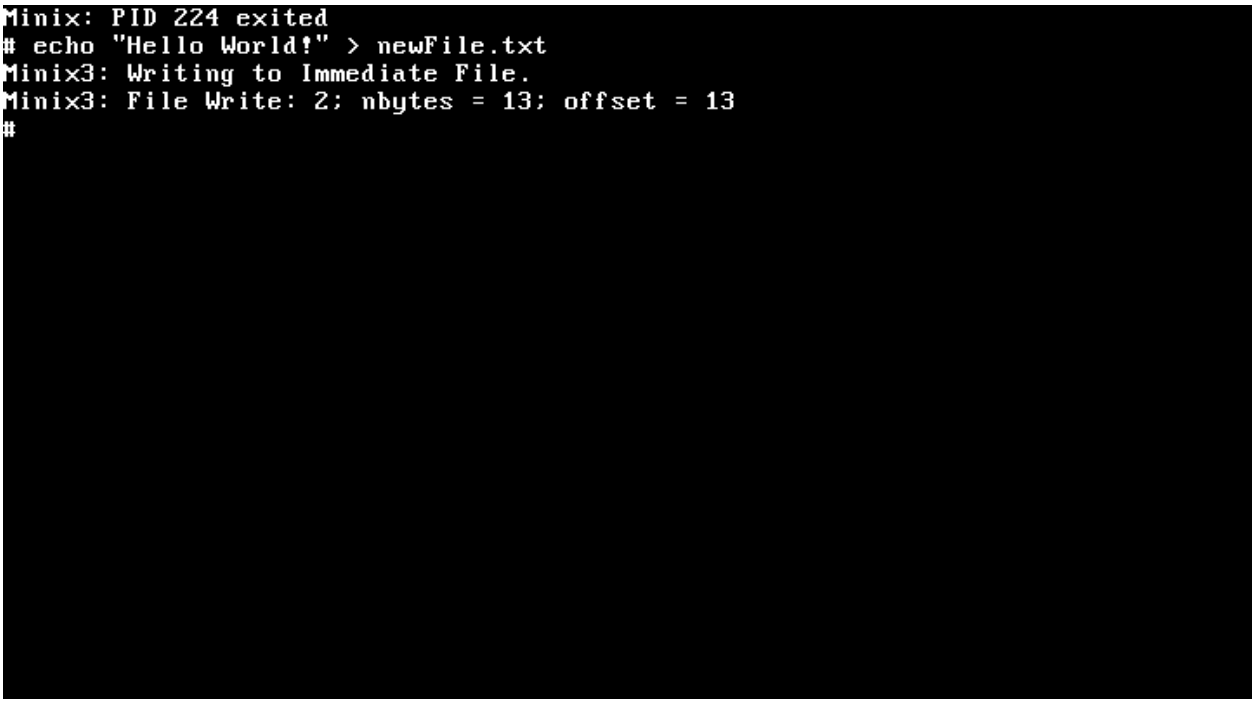

Figure 2: File Write - Upto 32 bytes

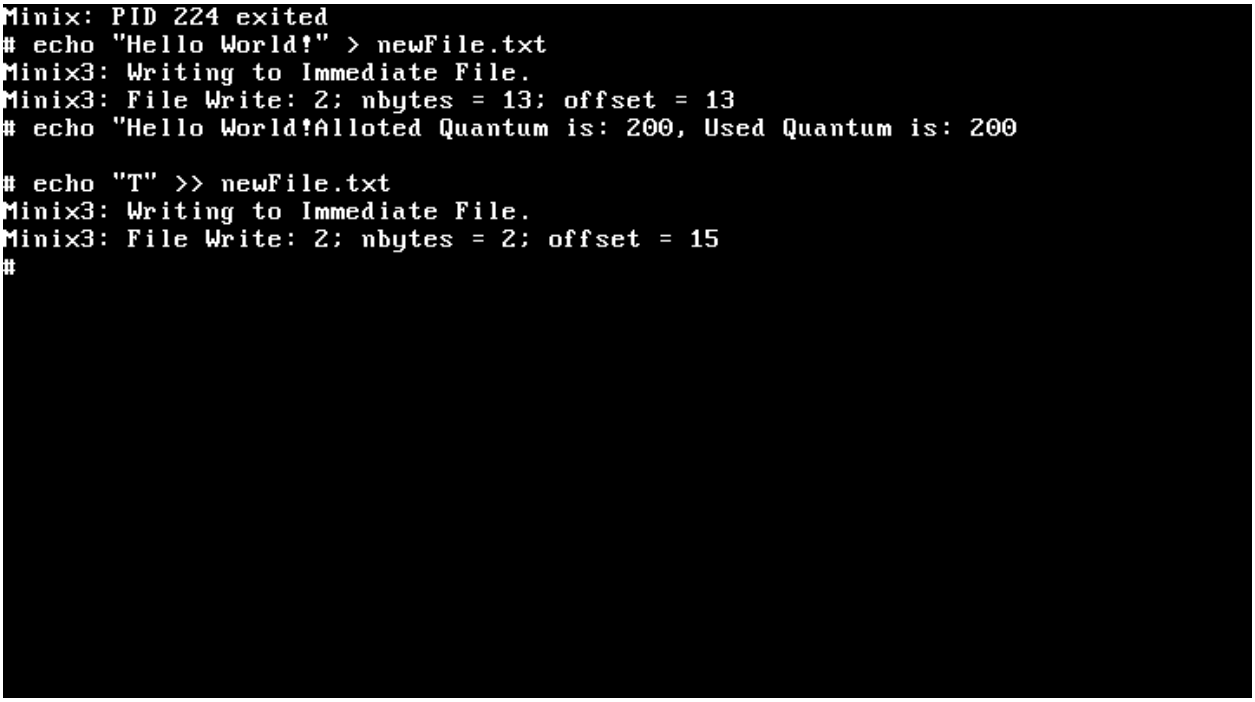

Figure 3: File Write: Concatenation to existing file - Upto 32 bytes

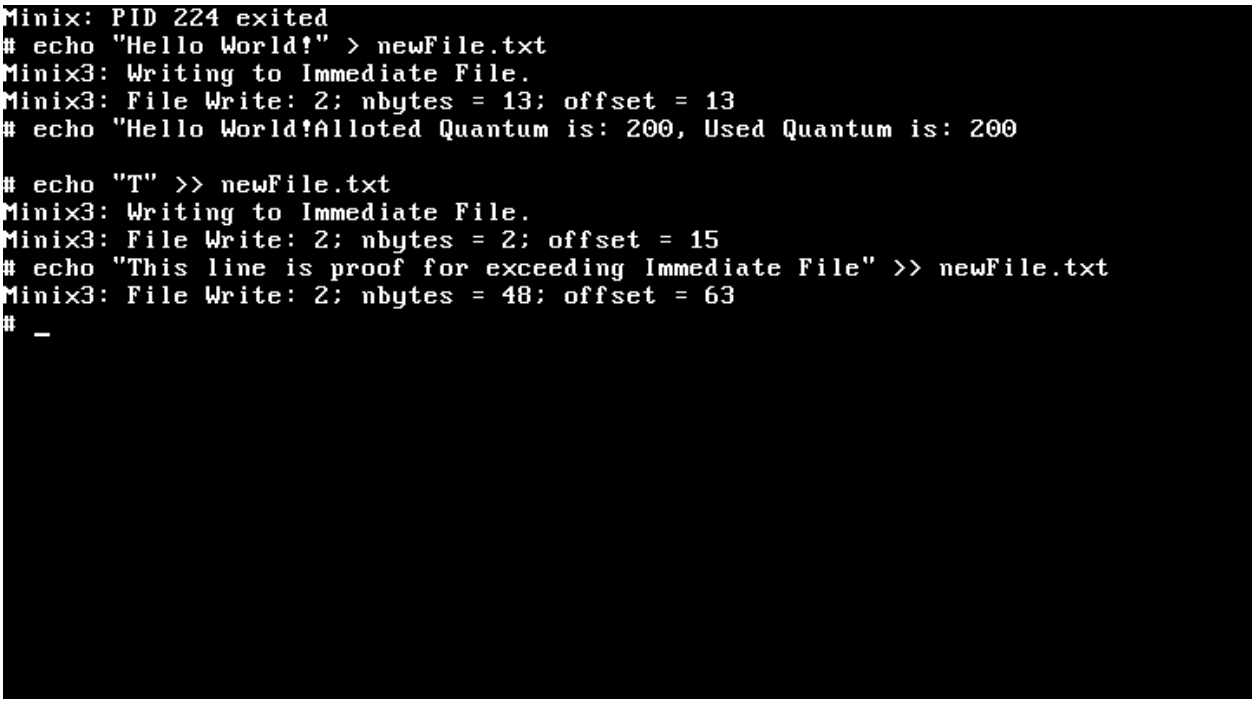

Figure 4: File Write: Concatenation to existing file - Beyond 32 bytes

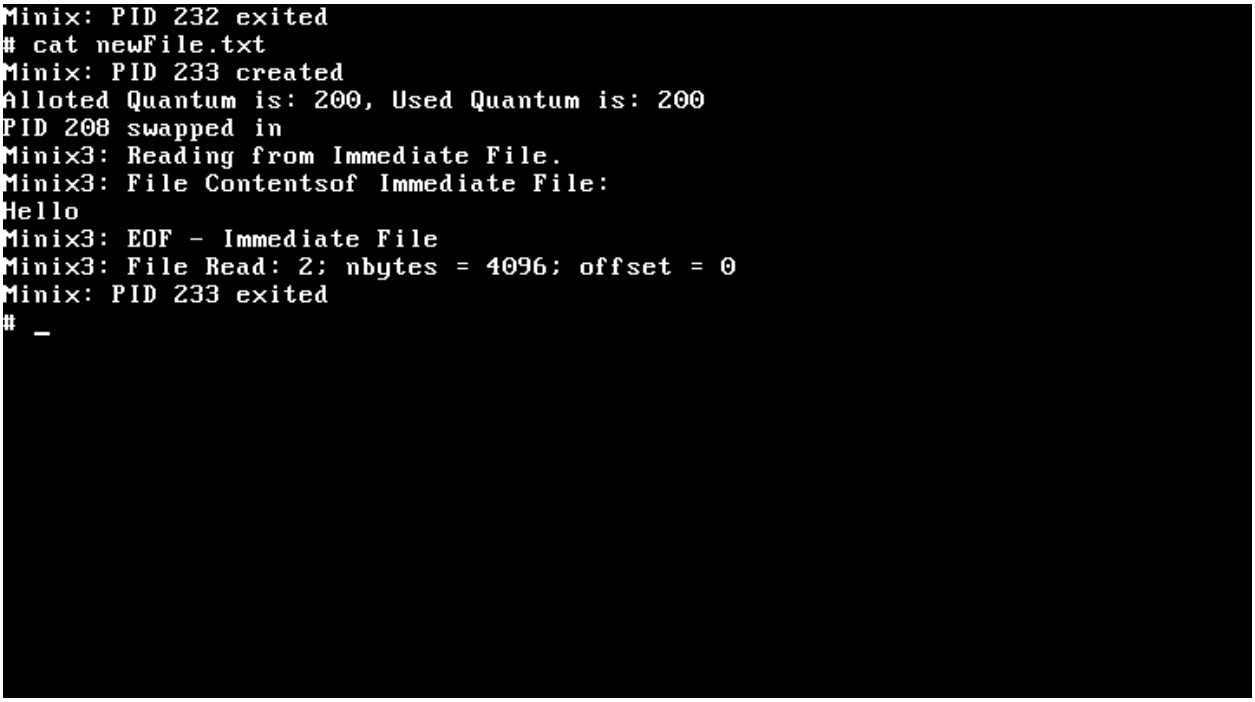

Figure 5: File Read

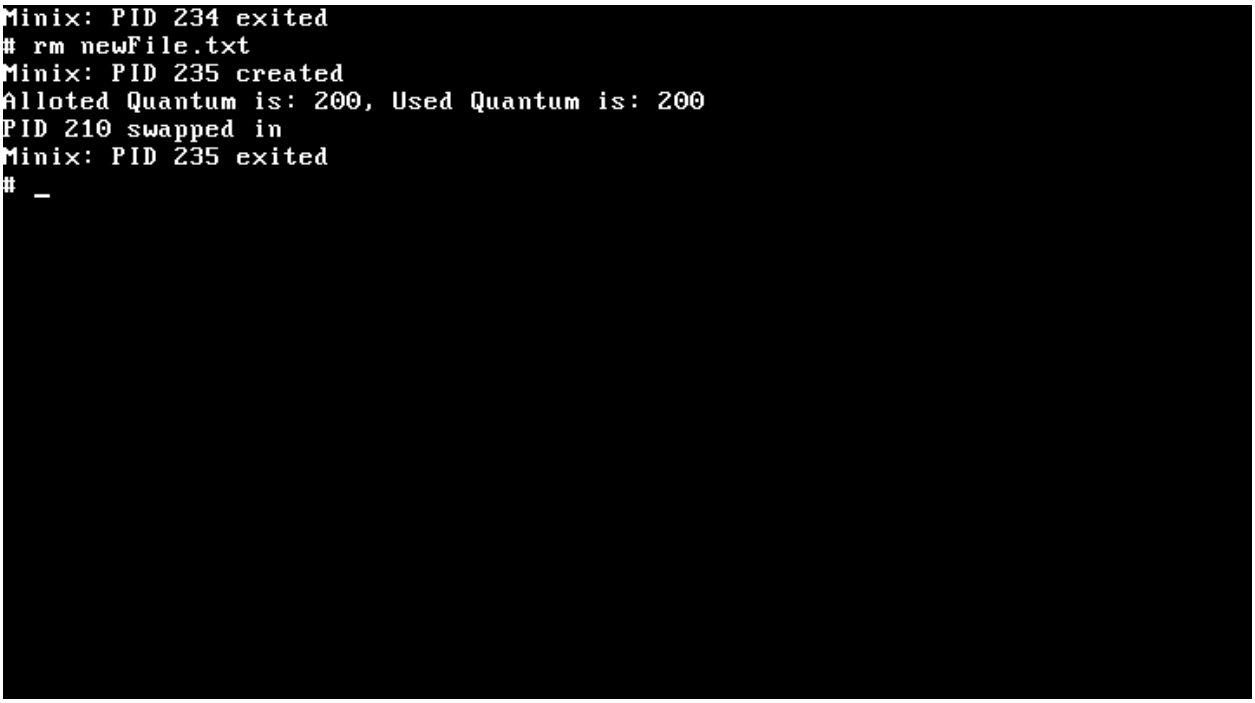

Figure 6: File Delete