

Minh Dang  
ID: 921210261

Sabrina Diaz-Erazo  
ID: 916931527

Trinity Godwin  
ID: 918448783

CSC 415-03 Operating Systems  
GitHub ID: MikeMikey200

## CSC415 Group Term Assignment - File System Project

**GitHub Link:** <https://github.com/CSC415-2023-Spring/csc415-filesystem-MikeMikey200>

### Description:

Our file system consists of components that are separated by three milestones. The first milestone was one of the more important ones since it acted as the base of our project. We had to format our volume which consisted of the following: writing our volume control block, our free space management, and the root directory with at least the “.” and “..” entries initialized. Our VCB contains the information regarding the file’s volume details of the signature, locationFreespace, locationRootDir, blockNum, blockNumFree, and blockSize. We are using the file allocation method (FAT) for our free space management, where it is a structure data type containing two uint64 of used and next. Used indicates if the block is used by a value of 0 for free and a value of 1 for used. Next indicates if the block is an EOF by a value of 0 or contains an index value of the next block in the free space map by a value greater than 0. Our directory system consists of an array of directory entries. Each directory entry has its metadata stored in a directory entry struct, which contains the following data fields: name, idOwner (a unique owner id), idGroup (a unique group id), type, size, location, and time represented by timeAccess, timeModify, and timeCreate.

The second milestone was the implementation of the directory based functions, which is the file system interface needed by the driver to interact with our filesystem.

The third milestone is the implementation of the file operations. This milestone is also where the following additional file system interfaces are implemented: b\_open, b\_read, b\_write, b\_seek, and b\_close.

## **Thoughts and approaches:**

- **Issues**
  - File extent, I was not able to successfully implement the file extents method, so I fall back onto the file allocation table method, which is easier to implement and manage, albeit slower.
  - Capitalization in the naming of the directory entries can cause error, lowercase seems to have no issues, this is not fixed yet
  - Another issue is that if not using the command correctly, it might bug out and give out a segmentation fault, cases of that can be seen in the mv and cp commands
  - Separate file as much as we could, while keeping relevant files together so that merging conflicts isn't that bad
  - Might not be free of all memory leaks, I'm having a little bit of trouble in debugging to locate where are the leaks
  - An additional thing is that our directory is in fixed size of 50 and can't be expanded as of our current file system
  - Debugging was also another challenging thing to do during things like Milestone 1, I have to manually input every single directory and checking for the functions for correctness, while Milestone 2 dependencies on the mkdir functions is a major thing in speeding up the process of debugging.
  - Lastly, we did not modify the display function to display the time\_t fields
- **Milestone 1:**
  - Volume control block
    - What is a magic number?
      - We struggled with this for a bit to finally figured out that it is simply anything to prevent initializing every single time the file system is running
    - Keeping track of the location of free space and root directory
  - What is the free space management that we will use?
    - A struct of used and next to determining the current block is used or not and does it have a number pointing to the next block
    - A bunch of helper functions to allocate the blocks, release the blocks, and

miscellaneous functions to do things like returning the next block number, total allocated blocks, and the end allocated block number.

- Directory Entry
  - At first, do determine what type of the entry it is, and we just say that anything is 0 is a directory while non-zeroes are a file
  - Name as \0 character to determine whether it is used or not
  - Size of the entry, if it is a file the size will be in how large the file is, and the directory will be how large the directory will be
  - Additional miscellaneous things are like timestamps
- Global variables
  - Things like the VCB, free space, and the root directory are very much used often enough that it should be a global variable to save us from using the system call to read it from the LBA every single time
  - We also added another variable later on such as the current working directory to keep track of it
- **Milestone 2:**
  - Parsepath
    - This one was much easier after the explanation during the lecture video you gave out about parsepath and how it will traverse whether it is with relative or absolute pathname and how it will load and locate within the directories.
      - Given a path, determining whether it is absolute by the pathname starting with '\' character, and it is relative without it.
      - Absolute starting with root directory and relative starting with current working directory
      - And loop in a while loop until no more tokenization of the given string
      - Return -1 if not found or the index on the parent directory
  - Directory operation functions
    - The first problem approach is to update the current working directory by calling the LBRead again on the cwd on the same size and location, I was able to update the cwd
    - When updating, not only I have to update the cwd, I also have to update the parent and load in the parent with the index from parsepath and

- update it as well by LBAwrite it into disk
- I made several helper functions to help to update the directories instead of typing them all out, such as load and copy functions
- Directory miscellaneous functions
  - getcwd and setcwd commands were the easier ones, but also very important due to being able to move inside our file system.
    - setcwd just set the global variable currentwd as the new location by loading it
    - getcwd was a bit tricky, I have to use string manipulation where I concatenate the currentwd name on the "\", and then save it for later to concatenate it with the parent's name
    - These two functionalities allow us to use the "cd" and "pwd" Linux commands.
  - isDir and isFile is checking for the field type in the directory entry for 0 as directory or not 0 as file
  - delete use the free space to release the used blocks and override the name as \0 to set the directory as unused.
    - Allow us to use the Linux command to delete a file using "rm" Linux command
  - stat fill up the fs\_stat structure with the given directory's information
    - To be able to use Linux command "ls" command to display current working directory entries, ".", and ".."
- Directory key functions
  - mkdir function need to check whether the given path up until the last directory is correct, so that we know the item does not exist so that we can make a directory there with the unused entry
    - We reuse the directory initialization function again with the directory copy and load
    - This allows us to use the "md" Linux command
  - rmdir function, it needs to check if the directory is empty in order to remove the directory.
    - Checking for all the entries within the directory for the \0 name as unused
    - Finally, release the allocated blocks if everything is empty inside the directory and put the entry back to as unused \0.

- This allows us to expand the “rm” to remove directory
- Directory iterative functions
  - opendir pass in a path name, so we can parse the path and fill up the fdDir structure’s information
  - readdir needs to check within the current directory for all the entries that are used and fill up the fs\_diriteminfo structure’s information and set the flag DT\_DIR as directory or DT\_REG as file
  - closedir is similar to b\_close as it freed up the file descriptor so that other can use it
  - These functions allow us to see the file’s name, size, and type per “ls” Linux command.
- **Milestone 3:**
  - b\_read and b\_write are very similar to each other, especially after the professor’s explanation of assignment 5 about file operation of reading, it felt much easier and doable for the remainder of the milestone 3.
    - Both of the operation have 2 condition, one is having enough remainder in the buffer to fill up the count and other is not enough remainder to fill up the count
    - The enough remainder is much easier, just write continue in the buffer with the offset
    - The not enough remainder is harder as I need to split up the buffer into 3 parts as explained in the lecture, the remainder, the blocks, and the leftover remainder
  - b\_close are explained the lecture as well, that after writing, I needed to write the last block, free up the file descriptor, and anything else additional in our file system
  - b\_seek is basically lseek, and I modified the offset according to the whence flags of SEEK\_SET, SEEK\_CUR, and SEEK\_END.
  - b\_open have 6 flags to handle, 3 of which are for writing and reading, O\_RDONLY, O\_WRONLY, and O\_RDWR, while the last 3 are for determining file creation, resetting the file, or adding onto of the file, O\_CREAT, O\_TRUNC, and O\_APPEND.
    - I determine the read/write permission using variable as 1 or 0 in the b\_fcb struct to keep track of the flags
    - Initializes all the variables within the b\_fcb structure with the given valid

fd

- mv command, from what I see, is that it is basically a cp command but after copying it to the new valid destination, it needed to delete the source, an optimization is that I could just swap the directory location in the destination with the source.

### How Our Driver Program Works:

The driver fsshell.c works to test our file system through built in commands which depend on the interfaces. The interfaces consist of the following directory functions and operations: fs\_mkdir, fs\_rmdir, fs\_opendir, fs\_readdir, fs\_closedir, fs\_getcwd, fs\_setcwd, fs\_isFile, fs\_isDir, fs\_delete, fs\_stat, b\_open, b\_read, b\_write, b\_seek, and b\_close. To test each command, the corresponding #define statement with “ON” added to the end needs to be set to 1.

The first command, represented by the function cmd\_ls, is the **ls** command. By itself, it lists all files in the current directory. This command works by checking whether the command line argument is a directory or not with the functions fs\_isDir and fs\_isFile. If it is a directory, then fs\_opendir is called and all files are displayed with the displayFiles function, which utilizes the following interfaces: fs\_readdir, fs\_stat, fs\_isDir, fs\_readdir, and fs\_closedir. If it is not a directory and is a file, then the name of the file is printed. If no pathname or filename is specified, then the current working directory is retrieved with the interfaces fs\_getcwd and fs\_opendir, and displayFiles is called.

The second command, represented by the function cmd\_touch, is the **touch** file command. The touch command creates a new file. The command works by calling b\_open with the flags O\_WRONLY and O\_CREAT and checking if the return value is less than 0 in case there is an error. The O\_WRONLY flag means that the file is open for writing only and the O\_CREAT flag means that if the file does not exist, then create it. b\_close is then called.

The third command, represented by the function cmd\_cat, is the **cat** command. The cat command displays the contents of a file. The command works by first checking if the b\_open function with the flag O\_RDONLY opens the file without an error. If there is an error, an error message prints to the screen and the value returned from b\_open is returned. If there is not an error, the file is read into a buffer with b\_read and its contents are printed until the read count is equal to the length of the buffer. b\_close is then called.

The fourth command, represented by the function cmd\_cp, is the **copy** file command. The copy command copies the contents of one file into a different location. The command works by calling b\_open with the source file as the first parameter and the O\_RDONLY flag as the second parameter and then by calling b\_open with the destination as the first parameter and the O\_WRONLY, O\_CREAT, and O\_TRUNC flags as the second parameter. The return values are then stored into testfs\_src\_fd and testfs\_dest\_fd respectively. b\_read reads the source file, stores it into readcnt, and then b\_write writes the source file into the destination. This process happens in a loop until the length of the buffer is equal to the value of readcnt. b\_close is then called twice; first with testfs\_src\_fd as the parameter and second with testfs\_dest\_fd as the parameter.

The fifth command, represented by the function cmd\_mv, is the **move** file command. The move command moves a file from one location to another. It is different from the copy command since it deletes the original file. The copy command leaves the original file intact. The command works the same way as the cp command except it does not have a case 2 for the switch statements and before the files are closed, the source file is deleted with fs\_delete.

The sixth command, represented by the function cmd\_md, is the **make directory** command. The make directory command creates a new directory. The command works by making sure that the command line argument entered is the second one. If it is not the second one, -1 is returned; if it is the second one, fs\_mkdir is called with the second command line argument and is then returned.

The seventh command, represented by the function cmd\_rm, is the **remove directory or file** command. The remove directory or file command deletes a directory or a file. The command works by first checking whether the command line argument is either a directory or a file with the fs\_isDir and fs\_isFile functions respectively. If it is a directory, then fs\_rmdir is called and returned. If it is a file, then fs\_delete is called and returned.

The eighth command, represented by the function cmd\_cp2l, is the **copy file from test file system to Linux** command. The command works by calling b\_open with the source file as the first parameter and the O\_RDONLY flag as the second parameter and calling open with the destination as the first parameter, the O\_WRONLY, O\_CREAT, and O\_TRUNC flags as the second parameter, and PERMISSIONS as the third parameter. The return value of each function call is stored into testfs\_fd and linux\_fd respectively. While the value of readcnt is equal to the length

of the buffer, b\_read is called with testfs\_fd, stored into readcnt, and write is called to write to linux\_fd. b\_close and close are then called.

The ninth command, represented by the function cmd\_cp2fs, is the **copy file from Linux to test file system** command. The command works similarly to cmd\_cp2l; the only difference is that the source and destination and their corresponding flags switch positions in the first and second parameters of b\_open and open.

The tenth command, represented by the function cmd\_cd, is the **cd** command. The cd command changes the current working directory. The command works by first checking if there are enough command line arguments to implement the command. If there is, then the second command line argument is stored into path, which is declared as a char \*. If the first element of path is equal to " and the last element of path is also equal to ", then remove the quotes from the string. fs\_setcwd is then called with the parameter path. The return value is then stored into ret and if ret is not equal to 0, then an error message is printed and the value of ret is returned.

The eleventh command, represented by the function cmd\_pwd, is the **pwd** command. The pwd command outputs the full path name of our current directory. The command works by calling fs\_getcwd and storing it into ptr, which is of type char \*. If ptr is NULL, then an error message is printed. If it is not NULL, then the full path name of our current directory is printed. The directory buffer, included as the first parameter in fs\_getcwd, is then freed, set to NULL, and ptr is set to NULL as well.

### Screenshot of compilation:

```
student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$ make
gcc -c -o fsshell.o fsshell.c -g -I.
gcc -c -o fsInit.o fsInit.c -g -I.
gcc -c -o fat.o fat.c -g -I.
gcc -c -o dir.o dir.c -g -I.
gcc -c -o parsePath.o parsePath.c -g -I.
gcc -c -o dirFunctionMisc.o dirFunctionMisc.c -g -I.
gcc -c -o dirFunctionIter.o dirFunctionIter.c -g -I.
gcc -c -o dirFunctionKey.o dirFunctionKey.c -g -I.
gcc -o fsshell fsshell.o fsInit.o fat.o dir.o parsePath.o dirFunctionMisc.o dirFunctionIter.o dirFunctionKey.o b_lo.c fsFunction.c fsLow.o -g -I. -lm -l readline -l pthread
student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$
```

### Screenshot(s) of the execution of the program:

```
student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$ make run
./fsshell SampleVolume 10000000 512
File SampleVolume does exist, errno = 0
File SampleVolume good to go, errno = 0
Opened SampleVolume, Volume Size: 9999872; BlockSize: 512; Return 0
Initializing File System with 19531 blocks with a block size of 512
Prompt >
```

## Working commands:

The current working directory initially will be set to "\\" as root

cd:

```
student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$ make run
./fsshell SampleVolume 10000000 512
File SampleVolume does exist, errno = 0
File SampleVolume good to go, errno = 0
Opened SampleVolume, Volume Size: 9999872; BlockSize: 512; Return 0
Initializing File System with 19531 blocks with a block size of 512
Prompt > pwd
\
Prompt > ls -la

D 22400 .
D 22400 ..
- 8182 dec.txt
D 22400 dir
Prompt > cd dir
Prompt > ls -la

D 22400 .
D 22400 ..
- 8182 dec
Prompt > pwd
\dir
Prompt > 
```

pwd:

```
student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$ make run
./fsshell SampleVolume 10000000 512
File SampleVolume does exist, errno = 0
File SampleVolume good to go, errno = 0
Opened SampleVolume, Volume Size: 9999872; BlockSize: 512; Return 0
Initializing File System with 19531 blocks with a block size of 512
Prompt > md dir
Prompt > cd dir
Prompt > md foo
Prompt > cd foo
Prompt > md bar
Prompt > cd bar
Prompt > pwd
\dir\foo\bar
Prompt > 
```

ls:

```
student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$ make run
./fsshell SampleVolume 10000000 512
File SampleVolume does exist, errno = 0
File SampleVolume good to go, errno = 0
Opened SampleVolume, Volume Size: 9999872; BlockSize: 512; Return 0
Initializing File System with 19531 blocks with a block size of 512
Prompt > md dir2
Prompt > md dir3
Prompt > cp2fs dec.txt
Prompt > ls -la

D      22400  .
D      22400  ..
D      22400  dir
D      22400  dir2
D      22400  dir3
-      8182   dec.txt
Prompt >
```

md:

```
student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$ make run
./fsshell SampleVolume 10000000 512
File SampleVolume does exist, errno = 0
File SampleVolume good to go, errno = 0
Opened SampleVolume, Volume Size: 9999872; BlockSize: 512; Return 0
Initializing File System with 19531 blocks with a block size of 512
Prompt > ls

dec.txt
dir
Prompt > cd dir
Prompt > md Dirdir
Prompt > ls -la

D      22400  .
D      22400  ..
-      8182   dec
D      22400  Dirdir
Prompt > █
```

rm:

```
student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$ make run
./fsshell SampleVolume 10000000 512
File SampleVolume does exist, errno = 0
File SampleVolume good to go, errno = 0
Opened SampleVolume, Volume Size: 9999872; BlockSize: 512; Return 0
Initializing File System with 19531 blocks with a block size of 512
Prompt > md dir2
Prompt > md dir3
Prompt > cp2fs dec.txt
Prompt > ls -la

D 22400 .
D 22400 ..
D 22400 dir
D 22400 dir2
D 22400 dir3
- 8182 dec.txt
Prompt > rm dir2
Prompt > ls -la

D 22400 .
D 22400 ..
D 22400 dir
D 22400 dir3
- 8182 dec.txt
Prompt > 
```

cp:

```
student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$ make run
./fsshell SampleVolume 10000000 512
File SampleVolume does exist, errno = 0
File SampleVolume good to go, errno = 0
Opened SampleVolume, Volume Size: 9999872; BlockSize: 512; Return 0
Initializing File System with 19531 blocks with a block size of 512
Prompt > ls -la

D 22400 .
D 22400 ..
D 22400 dir
D 22400 dir3
- 8182 dec.txt
Prompt > cp dec.txt dir\dec
Prompt > cd dir
Prompt > ls -la

D 22400 .
D 22400 ..
D 22400 foo
- 8182 dec
Prompt > 
```

mv:

This command is partially working if it in the same directory

```
student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$ make run
./fsshell SampleVolume 10000000 512
File SampleVolume does exist, errno = 0
File SampleVolume good to go, errno = 0
Opened SampleVolume, Volume Size: 9999872; BlockSize: 512; Return 0
Initializing File System with 19531 blocks with a block size of 512
Prompt > ls -la
D 22400 .
D 22400 ..
D 22400 dir
D 22400 dir3
- 8182 dec.txt
Prompt > mv dec.txt dir3\dec.txt
Prompt > cd dir3
Prompt > ls -la
D 22400 .
D 22400 ..
- 8182 dec.txt
Prompt > pwd
\dir3
Prompt > cd ..
Prompt > ls -la
D 22400 .
D 22400 ..
D 22400 dir
D 22400 dir3
Prompt >
```

touch:

there's a bug with this command where it is overriding the VCB, but it is working on the current session, and it will wipe out the VCB

```
student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$ make run
./fsshell SampleVolume 10000000 512
File SampleVolume does exist, errno = 0
File SampleVolume good to go, errno = 0
Opened SampleVolume, Volume Size: 9999872; BlockSize: 512; Return 0
Initializing File System with 19531 blocks with a block size of 512
Prompt > ls -la
D 22400 .
D 22400 ..
D 22400 dir
D 22400 dir3
Prompt > touch file
Prompt > ls -la
D 22400 .
D 22400 ..
D 22400 dir
- 0 file
D 22400 dir3
Prompt > █
```

cat:

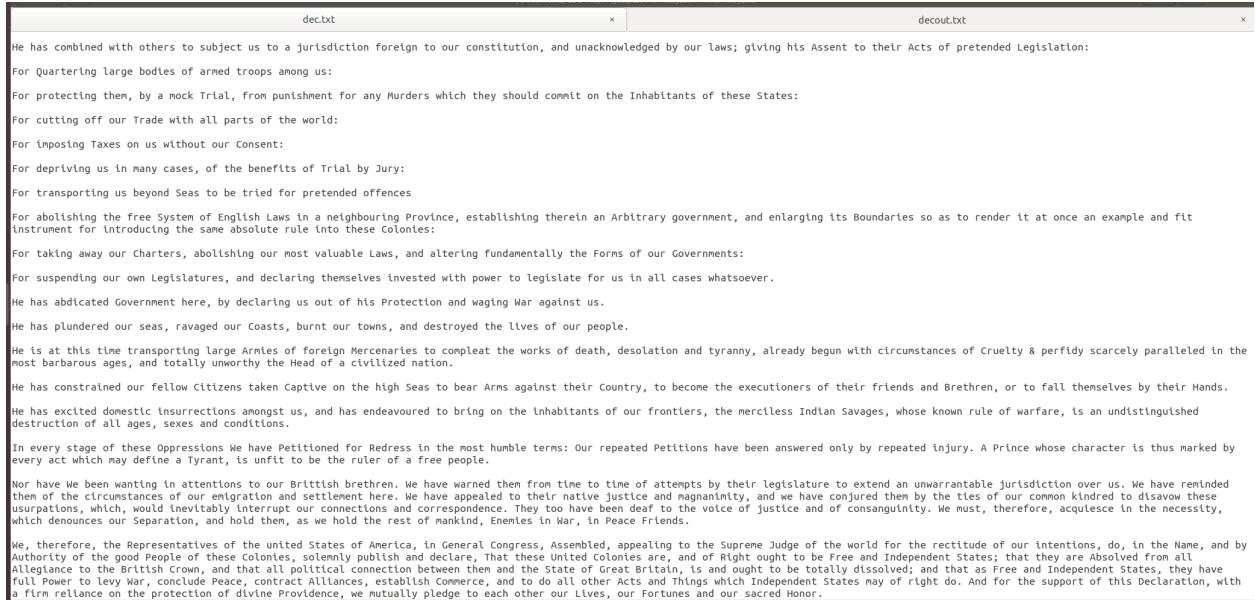
```
student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMkey2005 make run
./fschill SampleVolume 10000000 512
File SampleVolume does exist, errno = 0
File SampleVolume good to go, errno = 0
Opened SampleVolume, Volume Size: 9999872; BlockSize: 512; Return 0
Initializing File System with 19531 blocks with a block size of 512
Prompt > ls -la
D 22400 .
D 22400 .
D 22400 dir
D 22400 dir2
D 22400 dir3
- 8182 dec.txt
Prompt > cat dec.txt
The unanimous Declaration of the thirteen united States of America, When in the Course of human events, it becomes necessary for one people to dissolve the political bands which have connected them w
Prompt > 
```

## cp2fs:

```
student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMkey2005 make run
./fschill SampleVolume 10000000 512
File SampleVolume does exist, errno = 0
File SampleVolume good to go, errno = 0
Opened SampleVolume, Volume Size: 9999872; BlockSize: 512; Return 0
Initializing File System with 19531 blocks with a block size of 512
Prompt > ls -la
D 22400 .
D 22400 .
D 22400 dir
D 22400 dir2
D 22400 dir3
- 8182 dec.txt
Prompt > rm dec.txt
Prompt > cp2fs dec.txt
Prompt > ls -la
D 22400 .
D 22400 .
D 22400 dir
D 22400 dir2
D 22400 dir3
- 8182 dec.txt
Prompt > cat dec.txt
The unanimous Declaration of the thirteen united States of America, When in the Course of human events, it becomes necessary for one people to dissolve the political bands which have connected them w
Prompt > 
```

## cp2l:

```
student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMkey2005 make run
./fschill SampleVolume 10000000 512
File SampleVolume does exist, errno = 0
File SampleVolume good to go, errno = 0
Opened SampleVolume, Volume Size: 9999872; BlockSize: 512; Return 0
Initializing File System with 19531 blocks with a block size of 512
Prompt > ls -la
D 22400 .
D 22400 .
D 22400 dir
D 22400 dir2
D 22400 dir3
- 8182 dec.txt
Prompt > rm dec.txt
Prompt > cp2fs dec.txt
Prompt > ls -la
D 22400 .
D 22400 .
D 22400 dir
D 22400 dir2
D 22400 dir3
- 8182 dec.txt
Prompt > cat dec.txt
The unanimous Declaration of the thirteen united States of America, When in the Course of human events, it becomes necessary for one people to dissolve the political bands which have connected them w
Prompt > 
```



dec.txt x decout.txt x

He has combined with others to subject us to a jurisdiction foreign to our constitution, and unacknowledged by our laws; giving his Assent to their Acts of pretended Legislation:

For Quartering large bodies of armed troops among us:

For protecting them, by a mock Trial, from punishment for any Murders which they should commit on the Inhabitants of these States:

For cutting off our Trade with all parts of the world:

For imposing Taxes on us without our Consent:

For depriving us in many cases, of the benefits of Trial by Jury:

For transporting us beyond Seas to be tried for pretended offences

For abolishing the free System of English Laws in a neighbouring Province, establishing therein an Arbitrary government, and enlarging its Boundaries so as to render it at once an example and fit instrument for introducing the same absolute rule into these Colonies:

For taking away our Charters, abolishing our most valuable Laws, and altering fundamentally the Forms of our Governments:

For suspending our own Legislatures, and declaring themselves invested with power to legislate for us in all cases whatsoever.

He has abdicated Government here, by declaring us out of his Protection and waging War against us.

He has plundered our seas, ravaged our Coasts, burnt our towns, and destroyed the lives of our people.

He is at this time transporting large Armies of foreign Mercenaries to compleat the works of death, desolation and tyranny, already begun with circumstances of Cruelty & perfidy scarcely paralleled in the most barbarous ages, and totally unworthy the Head of a civilized nation.

He has constrained our fellow Citizens taken Captive on the high Seas to bear Arms against their Country, to become the executioners of their Friends and Brethren, or to fall themselves by their Hands.

He has excited domestic insurrections amongst us, and has endeavoured to bring on the Inhabitants of our frontiers, the merciless Indian Savages, whose known rule of warfare, is an undistinguished destruction of all ages, sexes and conditions.

In every stage of these Oppressions We have Petitioned for Redress in the most humble terms: Our repeated Petitions have been answered only by repeated injury. A Prince whose character is thus marked by every act which may define a Tyrant, is unfit to be the ruler of a free people.

Nor have We been wanting in attentions to our Brittish brethren. We have warned them from time to time of attempts by their legislature to extend an unwarrantable jurisdiction over us. We have reminded them of the circumstances of our emigration and settlement here. We have appealed to their native Justice and magnanimity, and we have conjured them by the ties of our common kindred to disavow these usurpations, which, would inevitably interrupt our connections and correspondence. They too have been deaf to the voice of justice and of Consanguinity. We must, therefore, acquiesce in the necessity, which denounces our Separation, and hold them, as we hold the rest of mankind, Enemies in War, in Peace Friends.

We, therefore, the Representatives of the United States of America, in General Congress, Assembled, appealing to the Supreme Judge of the world for the rectitude of our intentions, do, in the Name, and by Authority of the good people of these Colonies, solemnly publish and declare, That these United Colonies are, and of Right ought to be Free and Independent States; that they are Absolved from all Allegiance to the Brittish Crown, and that all political connection between them and the State of Great Britain, is and ought to be totally dissolved; and that as Free and Independent States, they have full Power to levy War, conclude Peace, contract Alliances, establish Commerce, and to do all other Acts and Things which Independent States may of right do. And for the support of this Declaration, with a firm reliance on the protection of divine Providence, we mutually pledge to each other our Lives, our Fortunes and our sacred Honor.

```
student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMik
ey200$ diff dec.txt decout.txt
student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMik
ey200$
```

## Hexdump:

Given files

```
student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$ make run
./fsshell SampleVolume 10000000 512
File SampleVolume does exist, errno = 0
File SampleVolume good to go, errno = 0
Opened SampleVolume, Volume Size: 9999872; BlockSize: 512; Return 0
Initializing File System with 19531 blocks with a block size of 512
Prompt > ls -la

D 22400 .
D 22400 ..
D 22400 dir
- 8182 dec.txt
D 22400 dir2
D 22400 dir3
Prompt >
```

- VCB

```

student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$ Hexdump/hexdump.linux SampleVolume --start 1 --count 1
Dumping file SampleVolume, starting at block 1 for 1 block:

000200: E7 07 00 00 01 00 00 00 33 01 00 00 4B 4C 00 00 | *.....3...KL..
000210: 5D 4A 00 00 00 02 00 00 00 00 00 00 00 00 00 00 | ]J.....
000220: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
000230: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
000240: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
000250: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
000260: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
000270: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
000280: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
000290: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
0002A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
0002B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
0002C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
0002D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
0002E0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
0002F0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |

000300: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
000310: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
000320: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
000330: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
000340: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
000350: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
000360: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
000370: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
000380: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
000390: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
0003A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
0003B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
0003C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
0003D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
0003E0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
0003F0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |

student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$
```

## - Freespace

```

student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$ Hexdump/hexdump.linux SampleVolume --start 2 --count 20
Dumping file SampleVolume, starting at block 2 for 20 blocks:

000400: 01 00 00 00 00 00 00 00 01 00 00 00 02 00 00 00 | ..... .
000410: 01 00 00 00 03 00 00 00 01 00 00 00 04 00 00 00 | ..... .
000420: 01 00 00 00 05 00 00 00 01 00 00 00 06 00 00 00 | ..... .
000430: 01 00 00 00 07 00 00 00 01 00 00 00 08 00 00 00 | ..... .
000440: 01 00 00 00 09 00 00 00 01 00 00 00 0A 00 00 00 | ..... .
000450: 01 00 00 00 0B 00 00 00 01 00 00 00 0C 00 00 00 | ..... .
000460: 01 00 00 00 0D 00 00 00 01 00 00 00 0E 00 00 00 | ..... .
000470: 01 00 00 00 0F 00 00 00 01 00 00 00 10 00 00 00 | ..... .
000480: 01 00 00 00 11 00 00 00 01 00 00 00 12 00 00 00 | ..... .
000490: 01 00 00 00 13 00 00 00 01 00 00 00 14 00 00 00 | ..... .
0004A0: 01 00 00 00 15 00 00 00 01 00 00 00 16 00 00 00 | ..... .
0004B0: 01 00 00 00 17 00 00 00 01 00 00 00 18 00 00 00 | ..... .
0004C0: 01 00 00 00 19 00 00 00 01 00 00 00 1A 00 00 00 | ..... .
0004D0: 01 00 00 00 1B 00 00 00 01 00 00 00 1C 00 00 00 | ..... .
0004E0: 01 00 00 00 1D 00 00 00 01 00 00 00 1E 00 00 00 | ..... .
0004F0: 01 00 00 00 1F 00 00 00 01 00 00 00 20 00 00 00 | ..... .

000500: 01 00 00 00 21 00 00 00 01 00 00 00 22 00 00 00 | ..... !.....".
000510: 01 00 00 00 23 00 00 00 01 00 00 00 24 00 00 00 | ..... #.....$...
000520: 01 00 00 00 25 00 00 00 01 00 00 00 26 00 00 00 | ..... %.....&...
000530: 01 00 00 00 27 00 00 00 01 00 00 00 28 00 00 00 | ..... (....(...
000540: 01 00 00 00 29 00 00 00 01 00 00 00 2A 00 00 00 | ..... ).....*...
000550: 01 00 00 00 2B 00 00 00 01 00 00 00 2C 00 00 00 | ..... +.....,....
000560: 01 00 00 00 2D 00 00 00 01 00 00 00 2E 00 00 00 | ..... -.....-
000570: 01 00 00 00 2F 00 00 00 01 00 00 00 30 00 00 00 | ..... /.....0...
000580: 01 00 00 00 31 00 00 00 01 00 00 00 32 00 00 00 | ..... 1.....2...
000590: 01 00 00 00 33 00 00 00 01 00 00 00 34 00 00 00 | ..... 3.....4...
0005A0: 01 00 00 00 35 00 00 00 01 00 00 00 36 00 00 00 | ..... 5.....6...
0005B0: 01 00 00 00 37 00 00 00 01 00 00 00 38 00 00 00 | ..... 7.....8...
0005C0: 01 00 00 00 39 00 00 00 01 00 00 00 3A 00 00 00 | ..... 9.....:...
0005D0: 01 00 00 00 3B 00 00 00 01 00 00 00 3C 00 00 00 | ..... ;.....<...
0005E0: 01 00 00 00 3D 00 00 00 01 00 00 00 3E 00 00 00 | ..... =.....>...
0005F0: 01 00 00 00 3F 00 00 00 01 00 00 00 40 00 00 00 | ..... ?.....@...
```

000600:	01 00 00 00 41 00 00 00	01 00 00 00 00 42 00 00 00	....A.....B...
000610:	01 00 00 00 43 00 00 00	01 00 00 00 00 44 00 00 00	....C.....D...
000620:	01 00 00 00 45 00 00 00	01 00 00 00 00 46 00 00 00	....E.....F...
000630:	01 00 00 00 47 00 00 00	01 00 00 00 00 48 00 00 00	....G.....H...
000640:	01 00 00 00 49 00 00 00	01 00 00 00 00 4A 00 00 00	....I.....J...
000650:	01 00 00 00 4B 00 00 00	01 00 00 00 00 4C 00 00 00	....K.....L...
000660:	01 00 00 00 4D 00 00 00	01 00 00 00 00 4E 00 00 00	....M.....N...
000670:	01 00 00 00 4F 00 00 00	01 00 00 00 00 50 00 00 00	....O.....P...
000680:	01 00 00 00 51 00 00 00	01 00 00 00 00 52 00 00 00	....Q.....R...
000690:	01 00 00 00 53 00 00 00	01 00 00 00 00 54 00 00 00	....S.....T...
0006A0:	01 00 00 00 55 00 00 00	01 00 00 00 00 56 00 00 00	....U.....V...
0006B0:	01 00 00 00 57 00 00 00	01 00 00 00 00 58 00 00 00	....W.....X...
0006C0:	01 00 00 00 59 00 00 00	01 00 00 00 00 5A 00 00 00	....Y.....Z...
0006D0:	01 00 00 00 5B 00 00 00	01 00 00 00 00 5C 00 00 00	....[.....\...
0006E0:	01 00 00 00 5D 00 00 00	01 00 00 00 00 5E 00 00 00	....].....^...
0006F0:	01 00 00 00 5F 00 00 00	01 00 00 00 00 60 00 00 00	...._.....`...
000700:	01 00 00 00 61 00 00 00	01 00 00 00 00 62 00 00 00	....a.....b...
000710:	01 00 00 00 63 00 00 00	01 00 00 00 00 64 00 00 00	....c.....d...
000720:	01 00 00 00 65 00 00 00	01 00 00 00 00 66 00 00 00	....e.....f...
000730:	01 00 00 00 67 00 00 00	01 00 00 00 00 68 00 00 00	....g.....h...
000740:	01 00 00 00 69 00 00 00	01 00 00 00 00 6A 00 00 00	....i.....j...
000750:	01 00 00 00 6B 00 00 00	01 00 00 00 00 6C 00 00 00	....k.....l...
000760:	01 00 00 00 6D 00 00 00	01 00 00 00 00 6E 00 00 00	....m.....n...
000770:	01 00 00 00 6F 00 00 00	01 00 00 00 00 70 00 00 00	....o.....p...
000780:	01 00 00 00 71 00 00 00	01 00 00 00 00 72 00 00 00	....q.....r...
000790:	01 00 00 00 73 00 00 00	01 00 00 00 00 74 00 00 00	....s.....t...
0007A0:	01 00 00 00 75 00 00 00	01 00 00 00 00 76 00 00 00	....u.....v...
0007B0:	01 00 00 00 77 00 00 00	01 00 00 00 00 78 00 00 00	....w.....x...
0007C0:	01 00 00 00 79 00 00 00	01 00 00 00 00 7A 00 00 00	....y.....z...
0007D0:	01 00 00 00 7B 00 00 00	01 00 00 00 00 7C 00 00 00	....{..... ...
0007E0:	01 00 00 00 7D 00 00 00	01 00 00 00 00 7E 00 00 00	....}.....~...
0007F0:	01 00 00 00 7F 00 00 00	01 00 00 00 00 80 00 00 00	.....`.....`...

000800:	01 00 00 00 81 00 00 00	01 00 00 00 00 82 00 00 00	.....♦.....♦..
000810:	01 00 00 00 83 00 00 00	01 00 00 00 00 84 00 00 00	.....♦.....♦..
000820:	01 00 00 00 85 00 00 00	01 00 00 00 00 86 00 00 00	.....♦.....♦..
000830:	01 00 00 00 87 00 00 00	01 00 00 00 00 88 00 00 00	.....♦.....♦..
000840:	01 00 00 00 89 00 00 00	01 00 00 00 00 8A 00 00 00	.....♦.....♦..
000850:	01 00 00 00 8B 00 00 00	01 00 00 00 00 8C 00 00 00	.....♦.....♦..
000860:	01 00 00 00 8D 00 00 00	01 00 00 00 00 8E 00 00 00	.....♦.....♦..
000870:	01 00 00 00 8F 00 00 00	01 00 00 00 00 90 00 00 00	.....♦.....♦..
000880:	01 00 00 00 91 00 00 00	01 00 00 00 00 92 00 00 00	.....♦.....♦..
000890:	01 00 00 00 93 00 00 00	01 00 00 00 00 94 00 00 00	.....♦.....♦..
0008A0:	01 00 00 00 95 00 00 00	01 00 00 00 00 96 00 00 00	.....♦.....♦..
0008B0:	01 00 00 00 97 00 00 00	01 00 00 00 00 98 00 00 00	.....♦.....♦..
0008C0:	01 00 00 00 99 00 00 00	01 00 00 00 00 9A 00 00 00	.....♦.....♦..
0008D0:	01 00 00 00 9B 00 00 00	01 00 00 00 00 9C 00 00 00	.....♦.....♦..
0008E0:	01 00 00 00 9D 00 00 00	01 00 00 00 00 9E 00 00 00	.....♦.....♦..
0008F0:	01 00 00 00 9F 00 00 00	01 00 00 00 A0 00 00 00	.....♦.....♦..
000900:	01 00 00 00 A1 00 00 00	01 00 00 00 A2 00 00 00	.....♦.....♦..
000910:	01 00 00 00 A3 00 00 00	01 00 00 00 A4 00 00 00	.....♦.....♦..
000920:	01 00 00 00 A5 00 00 00	01 00 00 00 A6 00 00 00	.....♦.....♦..
000930:	01 00 00 00 A7 00 00 00	01 00 00 00 A8 00 00 00	.....♦.....♦..
000940:	01 00 00 00 A9 00 00 00	01 00 00 00 AA 00 00 00	.....♦.....♦..
000950:	01 00 00 00 AB 00 00 00	01 00 00 00 AC 00 00 00	.....♦.....♦..
000960:	01 00 00 00 AD 00 00 00	01 00 00 00 AE 00 00 00	.....♦.....♦..
000970:	01 00 00 00 AF 00 00 00	01 00 00 00 B0 00 00 00	.....♦.....♦..
000980:	01 00 00 00 B1 00 00 00	01 00 00 00 B2 00 00 00	.....♦.....♦..
000990:	01 00 00 00 B3 00 00 00	01 00 00 00 B4 00 00 00	.....♦.....♦..
0009A0:	01 00 00 00 B5 00 00 00	01 00 00 00 B6 00 00 00	.....♦.....♦..
0009B0:	01 00 00 00 B7 00 00 00	01 00 00 00 B8 00 00 00	.....♦.....♦..
0009C0:	01 00 00 00 B9 00 00 00	01 00 00 00 BA 00 00 00	.....♦.....♦..
0009D0:	01 00 00 00 BB 00 00 00	01 00 00 00 BC 00 00 00	.....♦.....♦..
0009E0:	01 00 00 00 BD 00 00 00	01 00 00 00 BE 00 00 00	.....♦.....♦..
0009F0:	01 00 00 00 BF 00 00 00	01 00 00 00 C0 00 00 00	.....♦.....♦..

000A00:	01 00 00 00 C1 00 00 00	01 00 00 00 C2 00 00 00	. . . . . . . .
000A10:	01 00 00 00 C3 00 00 00	01 00 00 00 C4 00 00 00	. . . . . . . .
000A20:	01 00 00 00 C5 00 00 00	01 00 00 00 C6 00 00 00	. . . . . . . .
000A30:	01 00 00 00 C7 00 00 00	01 00 00 00 C8 00 00 00	. . . . . . . .
000A40:	01 00 00 00 C9 00 00 00	01 00 00 00 CA 00 00 00	. . . . . . . .
000A50:	01 00 00 00 CB 00 00 00	01 00 00 00 CC 00 00 00	. . . . . . . .
000A60:	01 00 00 00 CD 00 00 00	01 00 00 00 CE 00 00 00	. . . . . . . .
000A70:	01 00 00 00 CF 00 00 00	01 00 00 00 D0 00 00 00	. . . . . . . .
000A80:	01 00 00 00 D1 00 00 00	01 00 00 00 D2 00 00 00	. . . . . . . .
000A90:	01 00 00 00 D3 00 00 00	01 00 00 00 D4 00 00 00	. . . . . . . .
000AA0:	01 00 00 00 D5 00 00 00	01 00 00 00 D6 00 00 00	. . . . . . . .
000AB0:	01 00 00 00 D7 00 00 00	01 00 00 00 D8 00 00 00	. . . . . . . .
000AC0:	01 00 00 00 D9 00 00 00	01 00 00 00 DA 00 00 00	. . . . . . . .
000AD0:	01 00 00 00 DB 00 00 00	01 00 00 00 DC 00 00 00	. . . . . . . .
000AE0:	01 00 00 00 DD 00 00 00	01 00 00 00 DE 00 00 00	. . . . . . . .
000AF0:	01 00 00 00 DF 00 00 00	01 00 00 00 E0 00 00 00	. . . . . . . .
000B00:	01 00 00 00 E1 00 00 00	01 00 00 00 E2 00 00 00	. . . . . . . .
000B10:	01 00 00 00 E3 00 00 00	01 00 00 00 E4 00 00 00	. . . . . . . .
000B20:	01 00 00 00 E5 00 00 00	01 00 00 00 E6 00 00 00	. . . . . . . .
000B30:	01 00 00 00 E7 00 00 00	01 00 00 00 E8 00 00 00	. . . . . . . .
000B40:	01 00 00 00 E9 00 00 00	01 00 00 00 EA 00 00 00	. . . . . . . .
000B50:	01 00 00 00 EB 00 00 00	01 00 00 00 EC 00 00 00	. . . . . . . .
000B60:	01 00 00 00 ED 00 00 00	01 00 00 00 EE 00 00 00	. . . . . . . .
000B70:	01 00 00 00 EF 00 00 00	01 00 00 00 F0 00 00 00	. . . . . . . .
000B80:	01 00 00 00 F1 00 00 00	01 00 00 00 F2 00 00 00	. . . . . . . .
000B90:	01 00 00 00 F3 00 00 00	01 00 00 00 F4 00 00 00	. . . . . . . .
000BA0:	01 00 00 00 F5 00 00 00	01 00 00 00 F6 00 00 00	. . . . . . . .
000BB0:	01 00 00 00 F7 00 00 00	01 00 00 00 F8 00 00 00	. . . . . . . .
000BC0:	01 00 00 00 F9 00 00 00	01 00 00 00 FA 00 00 00	. . . . . . . .
000BD0:	01 00 00 00 FB 00 00 00	01 00 00 00 FC 00 00 00	. . . . . . . .
000BE0:	01 00 00 00 FD 00 00 00	01 00 00 00 FE 00 00 00	. . . . . . . .
000BF0:	01 00 00 00 FF 00 00 00	01 00 00 00 01 00 00	. . . . . . . .

000C00:	01 00 00 00 01 01 00 00	01 00 00 00 02 01 00 00	..... . . . . . . . .
000C10:	01 00 00 00 03 01 00 00	01 00 00 00 04 01 00 00	..... . . . . . . . .
000C20:	01 00 00 00 05 01 00 00	01 00 00 00 06 01 00 00	..... . . . . . . . .
000C30:	01 00 00 00 07 01 00 00	01 00 00 00 08 01 00 00	..... . . . . . . . .
000C40:	01 00 00 00 09 01 00 00	01 00 00 00 0A 01 00 00	..... . . . . . . . .
000C50:	01 00 00 00 0B 01 00 00	01 00 00 00 0C 01 00 00	..... . . . . . . . .
000C60:	01 00 00 00 0D 01 00 00	01 00 00 00 0E 01 00 00	..... . . . . . . . .
000C70:	01 00 00 00 0F 01 00 00	01 00 00 00 10 01 00 00	..... . . . . . . . .
000C80:	01 00 00 00 11 01 00 00	01 00 00 00 12 01 00 00	..... . . . . . . . .
000C90:	01 00 00 00 13 01 00 00	01 00 00 00 14 01 00 00	..... . . . . . . . .
000CA0:	01 00 00 00 15 01 00 00	01 00 00 00 16 01 00 00	..... . . . . . . . .
000CB0:	01 00 00 00 17 01 00 00	01 00 00 00 18 01 00 00	..... . . . . . . . .
000CC0:	01 00 00 00 19 01 00 00	01 00 00 00 1A 01 00 00	..... . . . . . . . .
000CD0:	01 00 00 00 1B 01 00 00	01 00 00 00 1C 01 00 00	..... . . . . . . . .
000CE0:	01 00 00 00 1D 01 00 00	01 00 00 00 1E 01 00 00	..... . . . . . . . .
000CF0:	01 00 00 00 1F 01 00 00	01 00 00 00 20 01 00 00	..... . . . . . . . .
000D00:	01 00 00 00 21 01 00 00	01 00 00 00 22 01 00 00	..... ! . . . . " . .
000D10:	01 00 00 00 23 01 00 00	01 00 00 00 24 01 00 00	..... # . . . . \$ . .
000D20:	01 00 00 00 25 01 00 00	01 00 00 00 26 01 00 00	..... % . . . . & . .
000D30:	01 00 00 00 27 01 00 00	01 00 00 00 28 01 00 00	..... ' . . . . ( . .
000D40:	01 00 00 00 29 01 00 00	01 00 00 00 2A 01 00 00	..... ) . . . . * . .
000D50:	01 00 00 00 2B 01 00 00	01 00 00 00 2C 01 00 00	..... + . . . . , . .
000D60:	01 00 00 00 2D 01 00 00	01 00 00 00 2E 01 00 00	..... - . . . . . . .
000D70:	01 00 00 00 2F 01 00 00	01 00 00 00 30 01 00 00	..... / . . . . 0 . .
000D80:	01 00 00 00 31 01 00 00	01 00 00 00 32 01 00 00	..... 1 . . . . 2 . .
000D90:	01 00 00 00 00 00 00 00	01 00 00 00 34 01 00 00	..... . . . . . . . .
000DA0:	01 00 00 00 35 01 00 00	01 00 00 00 36 01 00 00	..... 5 . . . . 6 . .
000DB0:	01 00 00 00 37 01 00 00	01 00 00 00 38 01 00 00	..... 7 . . . . 8 . .
000DC0:	01 00 00 00 39 01 00 00	01 00 00 00 3A 01 00 00	..... 9 . . . . : . .
000DD0:	01 00 00 00 3B 01 00 00	01 00 00 00 3C 01 00 00	..... ; . . . . < . .
000DE0:	01 00 00 00 3D 01 00 00	01 00 00 00 3E 01 00 00	..... = . . . . > . .
000DF0:	01 00 00 00 3F 01 00 00	01 00 00 00 40 01 00 00	..... ? . . . . @ . .

000E00:	01 00 00 00 41 01 00 00	01 00 00 00 42 01 00 00	....A.....B...
000E10:	01 00 00 00 43 01 00 00	01 00 00 00 44 01 00 00	....C.....D...
000E20:	01 00 00 00 45 01 00 00	01 00 00 00 46 01 00 00	....E.....F...
000E30:	01 00 00 00 47 01 00 00	01 00 00 00 48 01 00 00	....G.....H...
000E40:	01 00 00 00 49 01 00 00	01 00 00 00 4A 01 00 00	....I.....J...
000E50:	01 00 00 00 4B 01 00 00	01 00 00 00 4C 01 00 00	....K.....L...
000E60:	01 00 00 00 4D 01 00 00	01 00 00 00 4E 01 00 00	....M.....N...
000E70:	01 00 00 00 4F 01 00 00	01 00 00 00 50 01 00 00	....O.....P...
000E80:	01 00 00 00 51 01 00 00	01 00 00 00 52 01 00 00	....Q.....R...
000E90:	01 00 00 00 53 01 00 00	01 00 00 00 54 01 00 00	....S.....T...
000EA0:	01 00 00 00 55 01 00 00	01 00 00 00 56 01 00 00	....U.....V...
000EB0:	01 00 00 00 57 01 00 00	01 00 00 00 58 01 00 00	....W.....X...
000EC0:	01 00 00 00 59 01 00 00	01 00 00 00 5A 01 00 00	....Y.....Z...
000ED0:	01 00 00 00 5B 01 00 00	01 00 00 00 5C 01 00 00	....[.....\...
000EE0:	01 00 00 00 5D 01 00 00	01 00 00 00 5E 01 00 00	....].....^...
000EF0:	01 00 00 00 00 00 00 00	01 00 00 00 60 01 00 00	.....`....
000F00:	01 00 00 00 61 01 00 00	01 00 00 00 62 01 00 00	....a.....b...
000F10:	01 00 00 00 63 01 00 00	01 00 00 00 64 01 00 00	....c.....d...
000F20:	01 00 00 00 65 01 00 00	01 00 00 00 66 01 00 00	....e.....f...
000F30:	01 00 00 00 67 01 00 00	01 00 00 00 68 01 00 00	....g.....h...
000F40:	01 00 00 00 69 01 00 00	01 00 00 00 6A 01 00 00	....i.....j...
000F50:	01 00 00 00 6B 01 00 00	01 00 00 00 6C 01 00 00	....k.....l...
000F60:	01 00 00 00 6D 01 00 00	01 00 00 00 6E 01 00 00	....m.....n...
000F70:	01 00 00 00 6F 01 00 00	01 00 00 00 70 01 00 00	....o.....p...
000F80:	01 00 00 00 71 01 00 00	01 00 00 00 72 01 00 00	....q.....r...
000F90:	01 00 00 00 73 01 00 00	01 00 00 00 74 01 00 00	....s.....t...
000FA0:	01 00 00 00 75 01 00 00	01 00 00 00 76 01 00 00	....u.....v...
000FB0:	01 00 00 00 77 01 00 00	01 00 00 00 78 01 00 00	....w.....x...
000FC0:	01 00 00 00 79 01 00 00	01 00 00 00 7A 01 00 00	....y.....z...
000FD0:	01 00 00 00 7B 01 00 00	01 00 00 00 7C 01 00 00	....[..... ...
000FE0:	01 00 00 00 7D 01 00 00	01 00 00 00 7E 01 00 00	....}.....~...
000FF0:	01 00 00 00 7F 01 00 00	01 00 00 00 80 01 00 00	.....`....

001000:	01 00 00 00 81 01 00 00	01 00 00 00 82 01 00 00	. . . . . . . .
001010:	01 00 00 00 83 01 00 00	01 00 00 00 84 01 00 00	. . . . . . . .
001020:	01 00 00 00 85 01 00 00	01 00 00 00 86 01 00 00	. . . . . . . .
001030:	01 00 00 00 87 01 00 00	01 00 00 00 88 01 00 00	. . . . . . . .
001040:	01 00 00 00 89 01 00 00	01 00 00 00 8A 01 00 00	. . . . . . . .
001050:	01 00 00 00 00 00 00 00	01 00 00 00 8C 01 00 00	. . . . . . . .
001060:	01 00 00 00 8D 01 00 00	01 00 00 00 8E 01 00 00	. . . . . . . .
001070:	01 00 00 00 8F 01 00 00	01 00 00 00 90 01 00 00	. . . . . . . .
001080:	01 00 00 00 91 01 00 00	01 00 00 00 92 01 00 00	. . . . . . . .
001090:	01 00 00 00 93 01 00 00	01 00 00 00 94 01 00 00	. . . . . . . .
0010A0:	01 00 00 00 95 01 00 00	01 00 00 00 96 01 00 00	. . . . . . . .
0010B0:	01 00 00 00 97 01 00 00	01 00 00 00 98 01 00 00	. . . . . . . .
0010C0:	01 00 00 00 99 01 00 00	01 00 00 00 9A 01 00 00	. . . . . . . .
0010D0:	01 00 00 00 9B 01 00 00	01 00 00 00 9C 01 00 00	. . . . . . . .
0010E0:	01 00 00 00 9D 01 00 00	01 00 00 00 9E 01 00 00	. . . . . . . .
0010F0:	01 00 00 00 9F 01 00 00	01 00 00 00 A0 01 00 00	. . . . . . . .
001100:	01 00 00 00 A1 01 00 00	01 00 00 00 A2 01 00 00	. . . . . . . .
001110:	01 00 00 00 A3 01 00 00	01 00 00 00 A4 01 00 00	. . . . . . . .
001120:	01 00 00 00 A5 01 00 00	01 00 00 00 A6 01 00 00	. . . . . . . .
001130:	01 00 00 00 A7 01 00 00	01 00 00 00 A8 01 00 00	. . . . . . . .
001140:	01 00 00 00 A9 01 00 00	01 00 00 00 AA 01 00 00	. . . . . . . .
001150:	01 00 00 00 AB 01 00 00	01 00 00 00 AC 01 00 00	. . . . . . . .
001160:	01 00 00 00 AD 01 00 00	01 00 00 00 AE 01 00 00	. . . . . . . .
001170:	01 00 00 00 AF 01 00 00	01 00 00 00 B0 01 00 00	. . . . . . . .
001180:	01 00 00 00 B1 01 00 00	01 00 00 00 B2 01 00 00	. . . . . . . .
001190:	01 00 00 00 B3 01 00 00	01 00 00 00 B4 01 00 00	. . . . . . . .
0011A0:	01 00 00 00 B5 01 00 00	01 00 00 00 B6 01 00 00	. . . . . . . .
0011B0:	01 00 00 00 B7 01 00 00	01 00 00 00 B8 01 00 00	. . . . . . . .
0011C0:	01 00 00 00 B9 01 00 00	01 00 00 00 BA 01 00 00	. . . . . . . .
0011D0:	01 00 00 00 BB 01 00 00	01 00 00 00 BC 01 00 00	. . . . . . . .
0011E0:	01 00 00 00 BD 01 00 00	01 00 00 00 BE 01 00 00	. . . . . . . .
0011F0:	01 00 00 00 BF 01 00 00	01 00 00 00 C0 01 00 00	. . . . . . . .

001200:	01 00 00 00 C1 01 00 00	01 00 00 00 C2 01 00 00	.....♦.....♦..
001210:	01 00 00 00 C3 01 00 00	01 00 00 00 C4 01 00 00	.....♦.....♦..
001220:	01 00 00 00 C5 01 00 00	01 00 00 00 C6 01 00 00	.....♦.....♦..
001230:	01 00 00 00 C7 01 00 00	01 00 00 00 C8 01 00 00	.....♦.....♦..
001240:	01 00 00 00 C9 01 00 00	01 00 00 00 00 00 00 00	.....♦.....
001250:	01 00 00 00 CB 01 00 00	01 00 00 00 CC 01 00 00	.....♦.....♦..
001260:	01 00 00 00 CD 01 00 00	01 00 00 00 CE 01 00 00	.....♦.....♦..
001270:	01 00 00 00 CF 01 00 00	01 00 00 00 D0 01 00 00	.....♦.....♦..
001280:	01 00 00 00 D1 01 00 00	01 00 00 00 D2 01 00 00	.....♦.....♦..
001290:	01 00 00 00 D3 01 00 00	01 00 00 00 D4 01 00 00	.....♦.....♦..
0012A0:	01 00 00 00 D5 01 00 00	01 00 00 00 D6 01 00 00	.....♦.....♦..
0012B0:	01 00 00 00 D7 01 00 00	01 00 00 00 D8 01 00 00	.....♦.....♦..
0012C0:	01 00 00 00 D9 01 00 00	01 00 00 00 DA 01 00 00	.....♦.....♦..
0012D0:	01 00 00 00 DB 01 00 00	01 00 00 00 DC 01 00 00	.....♦.....♦..
0012E0:	01 00 00 00 DD 01 00 00	01 00 00 00 DE 01 00 00	.....♦.....♦..
0012F0:	01 00 00 00 DF 01 00 00	01 00 00 00 E0 01 00 00	.....♦.....♦..
001300:	01 00 00 00 E1 01 00 00	01 00 00 00 E2 01 00 00	.....♦.....♦..
001310:	01 00 00 00 E3 01 00 00	01 00 00 00 E4 01 00 00	.....♦.....♦..
001320:	01 00 00 00 E5 01 00 00	01 00 00 00 E6 01 00 00	.....♦.....♦..
001330:	01 00 00 00 E7 01 00 00	01 00 00 00 E8 01 00 00	.....♦.....♦..
001340:	01 00 00 00 E9 01 00 00	01 00 00 00 EA 01 00 00	.....♦.....♦..
001350:	01 00 00 00 EB 01 00 00	01 00 00 00 EC 01 00 00	.....♦.....♦..
001360:	01 00 00 00 ED 01 00 00	01 00 00 00 EE 01 00 00	.....♦.....♦..
001370:	01 00 00 00 EF 01 00 00	01 00 00 00 F0 01 00 00	.....♦.....♦..
001380:	01 00 00 00 F1 01 00 00	01 00 00 00 F2 01 00 00	.....♦.....♦..
001390:	01 00 00 00 F3 01 00 00	01 00 00 00 F4 01 00 00	.....♦.....♦..
0013A0:	01 00 00 00 F5 01 00 00	01 00 00 00 00 00 00 00	.....♦.....
0013B0:	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00	.....
0013C0:	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00	.....
0013D0:	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00	.....
0013E0:	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00	.....
0013F0:	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00	.....























### - Root Directory

```
student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$ Hexdump/hexdump.linux SampleVolume --start 308 --count 6
Dumping file SampleVolume, starting at block 308 for 6 blocks:

026800: 2E 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
026810: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
026820: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
026830: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
026840: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
026850: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
026860: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
026870: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
026880: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
026890: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
0268A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
0268B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
0268C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
0268D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
0268E0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
0268F0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....

026900: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....@W.
026910: 33 01 00 00 00 00 00 00 28 00 00 00 3B 00 00 00 | 3.....(....;...
026920: 13 00 00 00 01 00 00 00 04 00 00 00 7B 00 00 00 | .....{...
026930: 01 00 00 00 78 00 00 00 01 00 00 00 00 00 00 00 | ....X....
026940: 90 9D FF FF FF FF D0 23 97 4A 04 56 00 00 | #####@#J.V..
026950: 28 00 00 00 3B 00 00 00 13 00 00 00 01 00 00 00 | (....;
026960: 04 00 00 00 7B 00 00 00 01 00 00 00 78 00 00 00 | .....{....X...
026970: 01 00 00 00 00 00 00 00 90 9D FF FF FF FF FF | .....#####
026980: D0 23 97 4A 04 56 00 00 28 00 00 00 3B 00 00 00 | @#J.V..(....;...
026990: 13 00 00 00 01 00 00 00 04 00 00 00 7B 00 00 00 | .....{...
0269A0: 01 00 00 00 78 00 00 00 01 00 00 00 00 00 00 00 | ....X....
0269B0: 90 9D FF FF FF FF D0 23 97 4A 04 56 00 00 | #####@#J.V..
0269C0: 2E 2E 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
0269D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
0269E0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
0269F0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
```

026A00:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....
026A10:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....
026A20:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....
026A30:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....
026A40:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....
026A50:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....
026A60:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....
026A70:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....
026A80:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....
026A90:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....
026AA0:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....
026AB0:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....
026AC0:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 80 57 00 00	.....@W..
026AD0:	33 01 00 00 00 00 00 00 00 28 00 00 00 3B 00 00 00	3.....(....;
026AE0:	13 00 00 00 01 00 00 00 04 00 00 00 7B 00 00 00	.....{....
026AF0:	01 00 00 00 78 00 00 00 01 00 00 00 00 00 00 00	....x.....
026B00:	90 9D FF FF FF FF FF FF D0 23 97 4A 04 56 00 00	######J.V..
026B10:	28 00 00 00 3B 00 00 00 13 00 00 00 01 00 00 00	(...;.....
026B20:	04 00 00 00 7B 00 00 00 01 00 00 00 78 00 00 00	....{.....x..
026B30:	01 00 00 00 00 00 00 00 90 9D FF FF FF FF FF FF	.....#####
026B40:	D0 23 97 4A 04 56 00 00 28 00 00 00 3B 00 00 00	*##J.V..(...;
026B50:	13 00 00 00 01 00 00 00 04 00 00 00 7B 00 00 00	.....{....
026B60:	01 00 00 00 78 00 00 00 01 00 00 00 00 00 00 00	....x.....
026B70:	90 9D FF FF FF FF FF FF D0 23 97 4A 04 56 00 00	######J.V..
026B80:	64 69 72 00 00 00 00 00 00 00 00 00 00 00 00 00	dir.....
026B90:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....
026BA0:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....
026BB0:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....
026BC0:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....
026BD0:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....
026BE0:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....
026BF0:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	.....





027000:	00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 80 57 00 00	.....♦W..
027010:	9E 01 00 00 00 00 00 00 00 00	3A 00 00 00 00 3B 00 00 00	.....;....
027020:	13 00 00 00 01 00 00 00 00 00	04 00 00 00 00 7B 00 00 00	.....{...
027030:	01 00 00 00 78 00 00 00 00 00	01 00 00 00 00 7B 00 00 00	....x.....{...
027040:	90 9D FF FF FF FF FF FF	D0 23 97 4A 04 56 00 00	######♦J.V..
027050:	3A 00 00 00 3B 00 00 00 00 00	13 00 00 00 00 01 00 00 00	:...;.....
027060:	04 00 00 00 7B 00 00 00 00 00	01 00 00 00 00 78 00 00 00	..{.....x...
027070:	01 00 00 00 7B 00 00 00 00 00	90 9D FF FF FF FF FF FF	..{.....#####
027080:	D0 23 97 4A 04 56 00 00 00 00	3A 00 00 00 00 3B 00 00 00	*#♦J.V..:...;...
027090:	13 00 00 00 01 00 00 00 00 00	04 00 00 00 00 7B 00 00 00	.....{...
0270A0:	01 00 00 00 78 00 00 00 00 00	01 00 00 00 00 7B 00 00 00	....x.....{...
0270B0:	90 9D FF FF FF FF FF FF	D0 23 97 4A 04 56 00 00	######♦J.V..
0270C0:	64 69 72 33 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00	dir3.....
0270D0:	00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00	.....
0270E0:	00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00	.....
0270F0:	00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00	.....
027100:	00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00	.....
027110:	00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00	.....
027120:	00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00	.....
027130:	00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00	.....
027140:	00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00	.....
027150:	00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00	.....
027160:	00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00	.....
027170:	00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00	.....
027180:	00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00	.....
027190:	00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00	.....
0271A0:	00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00	.....
0271B0:	00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00	.....
0271C0:	00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 80 57 00 00	.....♦W..
0271D0:	CA 01 00 00 00 00 00 00 00 00	3B 00 00 00 3B 00 00 00	.....;....
0271E0:	13 00 00 00 01 00 00 00 00 00	04 00 00 00 7B 00 00 00	..{.....
0271F0:	01 00 00 00 78 00 00 00 00 00	01 00 00 00 78 00 00 00	....x.....x...

```

027200: 90 9D FF FF FF FF FF FF FF D0 23 97 4A 04 56 00 00 | ######J.V..
027210: 3B 00 00 00 3B 00 00 00 13 00 00 00 01 00 00 00 | ;....;
027220: 04 00 00 00 7B 00 00 00 01 00 00 00 78 00 00 00 | ....{.....X...
027230: 01 00 00 00 78 00 00 00 90 9D FF FF FF FF FF | ....X.....#####
027240: D0 23 97 4A 04 56 00 00 3B 00 00 00 3B 00 00 00 | #####J.V..;....;
027250: 13 00 00 00 01 00 00 00 04 00 00 00 7B 00 00 00 | .....{....;
027260: 01 00 00 00 78 00 00 00 01 00 00 00 78 00 00 00 | ....X.....X...
027270: 90 9D FF FF FF FF FF D0 23 97 4A 04 56 00 00 | ######J.V..;
027280: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
027290: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
0272A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
0272B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
0272C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
0272D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
0272E0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
0272F0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;

027300: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
027310: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
027320: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
027330: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
027340: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
027350: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
027360: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
027370: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
027380: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
027390: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
0273A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
0273B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
0273C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
0273D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
0273E0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....;
0273F0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....
```

student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200\$ █

```

student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$ Hexdump/hexdump.linux SampleVolume --start 303 --count 5
Dumping file SampleVolume, starting at block 303 for 5 blocks:

025E00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025E10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025E20: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025E30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025E40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025E50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025E60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025E70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025E80: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025E90: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025EA0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025EB0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025EC0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025ED0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025EE0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025EF0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;

025F00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025F10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025F20: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025F30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025F40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025F50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025F60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025F70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025F80: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025F90: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025FA0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025FB0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025FC0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025FD0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025FE0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
025FF0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | .....,;
```







```

026600: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
026610: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
026620: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
026630: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
026640: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
026650: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
026660: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
026670: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
026680: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
026690: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
0266A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
0266B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
0266C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
0266D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
0266E0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
0266F0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .

026700: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
026710: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
026720: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
026730: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
026740: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
026750: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
026760: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
026770: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
026780: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
026790: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
0267A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
0267B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
0267C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
0267D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
0267E0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .
0267F0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | ..... .

student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$ █

```

### - dec.txt

```

student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200$ Hexdump/hexdump.linux SampleVolume --start 398 --count 16
Dumping file SampleVolume, starting at block 398 for 16 blocks:

031C00: 54 68 65 20 75 6E 61 6E 69 6D 6F 75 73 20 44 65 | The unanimous De
031C10: 63 6C 61 72 61 74 69 6F 6E 20 6F 66 20 74 68 65 | clarations of the
031C20: 20 74 68 69 72 74 65 65 6E 20 75 6E 69 74 65 64 | thirteen United
031C30: 20 53 74 61 74 65 73 20 6F 66 20 41 6D 65 72 69 | States of Ameri
031C40: 63 61 2C 20 57 68 65 6E 20 69 6E 20 74 68 65 20 | ca, When in the
031C50: 43 6F 75 72 73 65 20 6F 66 20 68 75 6D 61 6E 20 | Course of human
031C60: 65 76 65 6E 74 73 2C 20 69 74 20 62 65 63 6F 6D | events, it becomes
031C70: 65 73 20 6E 65 63 65 73 73 61 72 79 20 66 6F 72 | necessary for
031C80: 20 6F 6E 65 20 70 65 6F 70 6C 65 20 74 6F 20 64 | one people to dis
031C90: 69 73 73 6F 66 76 69 63 68 20 74 68 65 20 70 6F 6C 69 | solve the political
031CA0: 74 69 63 61 6C 20 62 61 6E 64 73 20 77 68 69 63 | bands which have
031CB0: 68 20 68 61 76 65 20 63 6F 6E 6E 65 63 74 65 64 | connected them with another
031CC0: 20 74 68 65 60 20 77 69 74 68 20 61 6E 74 68 6B | and to assume power among the
031CD0: 65 72 2C 20 61 6E 64 20 74 6F 20 61 73 73 75 6D | others of the earth,
031CE0: 65 20 61 6D 6E 67 20 74 68 65 20 70 6F 77 65 | the separate and equal stations
031CF0: 72 73 20 6F 66 20 74 68 65 20 65 61 72 74 68 2C | to which the Law of Nature's God
031D00: 20 74 68 65 20 73 65 70 61 72 61 74 65 20 61 6E | entitles them, a decent respect for the opinions of
031D10: 64 20 65 71 75 61 6C 20 73 74 61 74 69 6F 6E 20 | mankind requires that they should declare the
031D20: 74 6F 20 77 68 69 63 68 20 74 68 65 20 4C 61 77 | causes which impel them to the separation....We
031D30: 73 20 6F 66 20 4E 61 74 75 72 65 27 73 20 47 6F 64 20 | hold these truths to be self-evident
031D40: 6F 66 20 4E 61 74 75 72 65 27 73 20 47 6F 64 20 | that they should declare the
031D50: 65 6E 74 69 74 6C 65 20 74 68 65 60 2C 20 61 20 | causes which impel them to the separation....We
031D60: 64 65 63 65 6E 74 20 72 65 73 70 65 63 74 20 74 | hold these truths to be self-evident
031D70: 6F 20 74 68 65 20 6F 70 69 6E 69 6F 6E 73 20 6F | that they should declare the
031D80: 66 20 6D 61 6E 6B 69 6E 64 20 72 65 71 75 69 72 | causes which impel them to the separation....We
031D90: 65 73 20 74 68 61 74 20 74 68 65 20 73 68 6F | hold these truths to be self-evident
031DA0: 75 6C 64 20 64 65 63 6C 61 72 65 20 74 68 65 20 | that they should declare the
031DB0: 63 61 75 73 65 73 20 77 68 69 63 68 20 69 6D 70 | causes which impel them to the separation....We
031DC0: 65 6C 20 74 68 65 6D 20 74 6F 20 74 68 65 20 73 | hold these truths to be self-evident
031DD0: 65 70 61 72 61 74 69 6F 6E 2E 0D 0A 0D 0A 57 65 | that they should declare the
031DE0: 20 68 6F 6C 64 20 74 68 65 73 65 20 74 72 75 74 | causes which impel them to the separation....We
031DF0: 68 73 20 74 6F 20 62 65 20 73 65 6C 66 2D 65 76 | hold these truths to be self-evident

```

031E00: 69 64 65 6E 74 2C 20 74 68 61 74 20 61 6C 6C 20 | ident, that all  
031E10: 6D 65 6E 20 61 72 65 20 63 72 65 61 74 65 64 20 | men are created  
031E20: 65 71 75 61 6C 2C 20 74 68 61 74 20 74 68 65 79 | equal, that they  
031E30: 20 61 72 65 20 65 6E 64 6F 77 65 64 20 62 79 20 | are endowed by  
031E40: 74 68 65 69 72 20 43 72 65 61 74 6F 72 20 77 69 | their Creator wi  
031E50: 74 68 20 63 65 72 74 61 69 6E 20 75 6E 61 6C 69 | th certain unali  
031E60: 65 6E 61 62 6C 65 20 52 69 67 68 74 73 2C 20 74 | enable Rights, t  
031E70: 68 61 74 20 61 6D 6F 6E 67 20 74 68 65 73 65 20 | hat among these  
031E80: 61 72 65 20 4C 69 66 65 2C 20 4C 69 62 65 72 74 | are Life, Libert  
031E90: 79 20 61 6E 64 20 74 68 65 20 70 75 72 73 75 69 | y and the pursui  
031EA0: 74 20 6F 66 20 48 61 70 70 69 6E 65 73 73 2E 2D | t of Happiness.-  
031EB0: 2D 54 68 61 74 20 74 6F 20 73 65 63 75 72 65 20 | -That to secure  
031EC0: 74 68 65 73 65 20 72 69 67 68 74 73 2C 20 47 6F | these rights, Go  
031ED0: 76 65 72 6E 6D 65 6E 74 73 20 61 72 65 20 69 6E | vernments are in  
031EE0: 73 74 69 74 75 74 65 64 20 61 6D 6F 6E 67 20 4D | stituted among M  
031EF0: 65 6E 2C 20 64 65 72 69 76 69 6E 67 20 74 68 65 | en, deriving the

031F00: 69 72 20 6A 75 73 74 20 70 6F 77 65 72 73 20 66 | ir just powers f  
031F10: 72 6F 6D 20 74 68 65 20 63 6F 6E 73 65 6E 74 20 | rom the consent  
031F20: 6F 66 20 74 68 65 20 67 6F 76 65 72 6E 65 64 2C | of the governed,  
031F30: 20 2D 2D 54 68 61 74 20 77 68 65 6E 65 76 65 72 | --That whenever  
031F40: 20 61 6E 79 20 46 6F 72 6D 20 6F 66 20 47 6F 76 | any Form of Gov  
031F50: 65 72 6E 6D 65 6E 74 20 62 65 63 6F 6D 65 73 20 | ernment becomes  
031F60: 64 65 73 74 72 75 63 74 69 76 65 20 6F 66 20 74 | destructive of t  
031F70: 68 65 73 65 20 65 6E 64 73 2C 20 69 74 20 69 73 | hese ends, it is  
031F80: 20 74 68 65 20 52 69 67 68 74 20 6F 66 20 74 68 | the Right of th  
031F90: 65 20 50 65 6F 70 6C 65 20 74 6F 20 61 6C 74 65 | e People to alte  
031FA0: 72 20 6F 72 20 74 6F 20 61 62 6F 6C 69 73 68 20 | r or to abolish  
031FB0: 69 74 2C 20 61 6E 64 20 74 6F 20 69 6E 73 74 69 | it, and to insti  
031FC0: 74 75 74 65 20 6E 65 77 20 47 6F 76 65 72 6E 6D | tute new Governm  
031FD0: 65 6E 74 2C 20 6C 61 79 69 6E 67 20 69 74 73 20 | ent, laying its  
031FE0: 66 6F 75 6E 64 61 74 69 6F 6E 20 6F 6E 20 73 75 | foundation on su  
031FF0: 63 68 20 70 72 69 6E 63 69 70 6C 65 73 20 61 6E | ch principles an

032000: 64 20 6F 72 67 61 6E 69 7A 69 6E 67 20 69 74 73 | d organizing its  
032010: 20 70 6F 77 65 72 73 20 69 6E 20 73 75 63 68 20 | powers in such  
032020: 66 6F 72 6D 2C 20 61 73 20 74 6F 20 74 68 65 6D | form, as to them  
032030: 20 73 68 61 6C 6C 20 73 65 65 6D 20 6D 6F 73 74 | shall seem most  
032040: 20 6C 69 6B 65 6C 79 20 74 6F 20 65 66 66 65 63 | likely to effec  
032050: 74 20 74 68 65 69 72 20 53 61 66 65 74 79 20 61 | t their Safety a  
032060: 6E 64 20 48 61 70 70 69 6E 65 73 73 2E 20 50 72 | nd Happiness. Pr  
032070: 75 64 65 6E 63 65 2C 20 69 6E 64 65 65 64 2C 20 | udence, indeed,  
032080: 77 69 6C 6C 20 64 69 63 74 61 74 65 20 74 68 61 | will dictate tha  
032090: 74 20 47 6F 76 65 72 6E 6D 65 6E 74 73 20 6C 6F | t Governments lo  
0320A0: 6E 67 20 65 73 74 61 62 6C 69 73 68 65 64 20 73 | ng established s  
0320B0: 68 6F 75 6C 64 20 6E 6F 74 20 62 65 20 63 68 61 | hould not be cha  
0320C0: 6E 67 65 64 20 66 6F 72 20 6C 69 67 68 74 20 61 | nged for light a  
0320D0: 6E 64 20 74 72 61 6E 73 69 65 6E 74 20 63 61 75 | nd transient cau  
0320E0: 73 65 73 3B 20 61 6E 64 20 61 63 63 6F 72 64 69 | ses; and accordi  
0320F0: 6E 67 6C 79 20 61 6C 6C 20 65 78 70 65 72 69 65 | ngly all experie

032100: 6E 63 65 20 68 61 74 68 20 73 68 65 77 6E 2C 20 | nce hath shewn,  
032110: 74 68 61 74 20 6D 61 6E 6B 69 6E 64 20 61 72 65 | that mankind are  
032120: 20 6D 6F 72 65 20 64 69 73 70 6F 73 65 64 20 74 | more disposed t  
032130: 6F 20 73 75 66 66 65 72 2C 20 77 68 69 6C 65 20 | o suffer, while  
032140: 65 76 69 6C 73 20 61 72 65 20 73 75 66 66 65 72 | evils are suffer  
032150: 61 62 6C 65 2C 20 74 68 61 6E 20 74 6F 20 72 69 | able, than to ri  
032160: 67 68 74 20 74 68 65 6D 73 65 6C 76 65 73 20 62 | ght themselves b  
032170: 79 20 61 62 6F 6C 69 73 68 69 6E 67 20 74 68 65 | y abolishing the  
032180: 20 66 6F 72 6D 73 20 74 6F 20 77 68 69 63 68 20 | forms to which  
032190: 74 68 65 79 20 61 72 65 20 61 63 63 75 73 74 6F | they are accusto  
0321A0: 6D 65 64 2E 20 42 75 74 20 77 68 65 6E 20 61 20 | med. But when a  
0321B0: 6C 6F 6E 67 20 74 72 61 69 6E 20 6F 66 20 61 62 | long train of ab  
0321C0: 75 73 65 73 20 61 6E 64 20 75 73 75 72 70 61 74 | uses and usurpat  
0321D0: 69 6F 6E 73 2C 20 70 75 72 73 75 69 6E 67 20 69 | ions, pursuing i  
0321E0: 6E 76 61 72 69 61 62 6C 79 20 74 68 65 20 73 61 | nvariably the sa  
0321F0: 6D 65 20 4F 62 6A 65 63 74 20 65 76 69 6E 63 65 | me Object evince

032200:	73	20	61	20	64	65	73	69	67	6E	20	74	6F	20	72	65	s a design to re
032210:	64	75	63	65	20	74	68	65	6D	20	75	6E	64	65	72	20	duce them under
032220:	61	62	73	6F	6C	75	74	65	20	44	65	73	70	6F	74	69	absolute Despoti
032230:	73	6D	2C	20	69	74	20	69	73	20	74	68	65	69	72	20	sm, it is their
032240:	72	69	67	68	74	2C	20	69	74	20	69	73	20	74	68	65	right, it is the
032250:	69	72	20	64	75	74	79	2C	20	74	6F	20	74	68	72	6F	ir duty, to thro
032260:	77	20	6F	66	66	20	73	75	63	68	20	47	6F	76	65	72	w off such Gover
032270:	6E	6D	65	6E	74	2C	20	61	6E	64	20	74	6F	20	70	72	nment, and to pr
032280:	6F	76	69	64	65	20	6E	65	77	20	47	75	61	72	64	73	ovide new Guards
032290:	20	66	6F	72	20	74	68	65	69	72	20	66	75	74	75	72	for their futur
0322A0:	65	20	73	65	63	75	72	69	74	79	2E	2D	2D	53	75	63	e security...Suc
0322B0:	68	20	68	61	73	20	62	65	65	6E	20	74	68	65	20	70	h has been the p
0322C0:	61	74	69	65	6E	74	20	73	75	66	66	65	72	61	6E	63	atient sufferanc
0322D0:	65	20	6F	66	20	74	68	65	73	65	20	43	6F	6C	6F	6E	e of these Colon
0322E0:	69	65	73	3B	20	61	6E	64	20	73	75	63	68	20	69	73	ies; and such is
0322F0:	20	6E	6F	77	20	74	68	65	20	6E	65	63	65	73	73	69	now the necessi
032300:	74	79	20	77	68	69	63	68	20	63	6F	6E	73	74	72	61	ty which constra
032310:	69	6E	73	20	74	68	65	6D	20	74	6F	20	61	6C	74	65	ins them to alte
032320:	72	20	74	68	65	69	72	20	66	6F	72	6D	65	72	20	53	r their former S
032330:	79	73	74	65	6D	73	20	6F	66	20	47	6F	76	65	72	6E	ystems of Govern
032340:	6D	65	6E	74	2E	20	54	68	65	20	68	69	73	74	6F	72	ment. The histor
032350:	79	20	6F	66	20	74	68	65	20	70	72	65	73	65	6E	74	y of the present
032360:	20	4B	69	6E	67	20	6F	66	20	47	72	65	61	74	20	42	King of Great B
032370:	72	69	74	61	69	6E	20	69	73	20	61	20	68	69	73	74	ritain is a hist
032380:	6F	72	79	20	6F	66	20	72	65	70	65	61	74	65	64	20	ory of repeated
032390:	69	6E	6A	75	72	69	65	73	20	61	6E	64	20	75	73	75	injuries and usu
0323A0:	72	70	61	74	69	6F	6E	73	2C	20	61	6C	6C	20	68	61	rations, all ha
0323B0:	76	69	6E	67	20	69	6E	20	64	69	72	65	63	74	20	6F	ving in direct o
0323C0:	62	6A	65	63	74	20	74	68	65	20	65	73	74	61	62	6C	bject the establ
0323D0:	69	73	68	6D	65	6E	74	20	6F	66	20	61	6E	20	61	62	ishment of an ab
0323E0:	73	6F	6C	75	74	65	20	54	79	72	61	6E	6E	79	20	6F	solute Tyranny o
0323F0:	76	65	72	20	74	68	65	73	65	20	53	74	61	74	65	73	ver these States

032400: 2E 20 54 6F 20 70 72 6F 76 65 20 74 68 69 73 2C | . To prove this,  
032410: 20 6C 65 74 20 46 61 63 74 73 20 62 65 20 73 75 | let Facts be su  
032420: 62 6D 69 74 74 65 64 20 74 6F 20 61 20 63 61 6E | bmitted to a can  
032430: 64 69 64 20 77 6F 72 6C 64 2E 0D 0A 0D 0A 48 65 | did world.....He  
032440: 20 68 61 73 20 72 65 66 75 73 65 64 20 68 69 73 | has refused his  
032450: 20 41 73 73 65 6E 74 20 74 6F 20 4C 61 77 73 2C | Assent to Laws,  
032460: 20 74 68 65 20 6D 6F 73 74 20 77 68 6F 6C 65 73 | the most wholes  
032470: 6F 6D 65 20 61 6E 64 20 6E 65 63 65 73 73 61 72 | ome and necessar  
032480: 79 20 66 6F 72 20 74 68 65 20 70 75 62 6C 69 63 | y for the public  
032490: 20 67 6F 6F 64 2E 0D 0A 0D 0A 48 65 20 68 61 73 | good.....He has  
0324A0: 20 66 6F 72 62 69 64 64 65 6E 20 68 69 73 20 47 | forbidden his G  
0324B0: 6F 76 65 72 6E 6F 72 73 20 74 6F 20 70 61 73 73 | overnors to pass  
0324C0: 20 4C 61 77 73 20 6F 66 20 69 6D 6D 65 64 69 61 | Laws of immedia  
0324D0: 74 65 20 61 6E 64 20 70 72 65 73 73 69 6E 67 20 | te and pressing  
0324E0: 69 6D 70 6F 72 74 61 6E 63 65 2C 20 75 6E 6C 65 | importance, unle  
0324F0: 73 73 20 73 75 73 70 65 6E 64 65 64 20 69 6E 20 | ss suspended in

032500: 74 68 65 69 72 20 6F 70 65 72 61 74 69 6F 6E 20 | their operation  
032510: 74 69 6C 6C 20 68 69 73 20 41 73 73 65 6E 74 20 | till his Assent  
032520: 73 68 6F 75 6C 64 20 62 65 20 6F 62 74 61 69 6E | should be obtain  
032530: 65 64 3B 20 61 6E 64 20 77 68 65 6E 20 73 6F 20 | ed; and when so  
032540: 73 75 73 70 65 6E 64 65 64 2C 20 68 65 20 68 61 | suspended, he ha  
032550: 73 20 75 74 74 65 72 6C 79 20 6E 65 67 6C 65 63 | s utterly neglec  
032560: 74 65 64 20 74 6F 20 61 74 74 65 6E 64 20 74 6F | ted to attend to  
032570: 20 74 68 65 6D 2E 0D 0A 0D 0A 48 65 20 68 61 73 | them.....He has  
032580: 20 72 65 66 75 73 65 64 20 74 6F 20 70 61 73 73 | refused to pass  
032590: 20 6F 74 68 65 72 20 4C 61 77 73 20 66 6F 72 20 | other Laws for  
0325A0: 74 68 65 20 61 63 63 6F 6D 6D 6F 64 61 74 69 6F | the accommodatio  
0325B0: 6E 20 6F 66 20 6C 61 72 67 65 20 64 69 73 74 72 | n of large distr  
0325C0: 69 63 74 73 20 6F 66 20 70 65 6F 70 6C 65 2C 20 | icts of people,  
0325D0: 75 6E 6C 65 73 73 20 74 68 6F 73 65 20 70 65 6F | unless those peo  
0325E0: 70 6C 65 20 77 6F 75 6C 64 20 72 65 6C 69 6E 71 | ple would relinq  
0325F0: 75 69 73 68 20 74 68 65 20 72 69 67 68 74 20 6F | uish the right o

032600: 66 20 52 65 70 72 65 73 65 6E 74 61 74 69 6F 6E | f Representation  
032610: 20 69 6E 20 74 68 65 20 4C 65 67 69 73 6C 61 74 | in the Legislat  
032620: 75 72 65 2C 20 61 20 72 69 67 68 74 20 69 6E 65 | ure, a right ine  
032630: 73 74 69 6D 61 62 6C 65 20 74 6F 20 74 68 65 6D | stimable to them  
032640: 20 61 6E 64 20 66 6F 72 6D 69 64 61 62 6C 65 20 | and formidable  
032650: 74 6F 20 74 79 72 61 6E 74 73 20 6F 6E 6C 79 2E | to tyrants only.  
032660: 0D 0A 0D 0A 48 65 20 68 61 73 20 63 61 6C 6C 65 | ...He has calle  
032670: 64 20 74 6F 67 65 74 68 65 72 20 6C 65 67 69 73 | d together legis  
032680: 6C 61 74 69 76 65 20 62 6F 64 69 65 73 20 61 74 | lative bodies at  
032690: 20 70 6C 61 63 65 73 20 75 6E 75 73 75 61 6C 2C | places unusual,  
0326A0: 20 75 6E 63 6F 6D 66 6F 72 74 61 62 6C 65 2C 20 | uncomfortable,  
0326B0: 61 6E 64 20 64 69 73 74 61 6E 74 20 66 72 6F 6D | and distant from  
0326C0: 20 74 68 65 20 64 65 70 6F 73 69 74 6F 72 79 20 | the depository  
0326D0: 6F 66 20 74 68 65 69 72 20 70 75 62 6C 69 63 20 | of their public  
0326E0: 52 65 63 6F 72 64 73 2C 20 66 6F 72 20 74 68 65 | Records, for the  
0326F0: 20 73 6F 6C 65 20 70 75 72 70 6F 73 65 20 6F 66 | sole purpose of

032700: 20 66 61 74 69 67 75 69 6E 67 20 74 68 65 6D 20 | fatiguing them  
032710: 69 6E 74 6F 20 63 6F 6D 70 6C 69 61 6E 63 65 20 | into compliance  
032720: 77 69 74 68 20 68 69 73 20 6D 65 61 73 75 72 65 | with his measure  
032730: 73 2E 0D 0A 0D 0A 48 65 20 68 61 73 20 64 69 73 | s.....He has dis  
032740: 73 6F 6C 76 65 64 20 52 65 70 72 65 73 65 6E 74 | solved Represent  
032750: 61 74 69 76 65 20 48 6F 75 73 65 73 20 72 65 70 | ative Houses rep  
032760: 65 61 74 65 64 6C 79 2C 20 66 6F 72 20 6F 70 70 | eatedly, for opp  
032770: 6F 73 69 6E 67 20 77 69 74 68 20 6D 61 6E 6C 79 | osing with manly  
032780: 20 66 69 72 6D 6E 65 73 73 20 68 69 73 20 69 6E | firmness his in  
032790: 76 61 73 69 6F 6E 73 20 6F 6E 20 74 68 65 20 72 | vasions on the r  
0327A0: 69 67 68 74 73 20 6F 66 20 74 68 65 20 70 65 6F | ights of the peo  
0327B0: 70 6C 65 2E 0D 0A 0D 0A 48 65 20 68 61 73 20 72 | ple.....He has r  
0327C0: 65 66 75 73 65 64 20 66 6F 72 20 61 20 6C 6F 6E | efused for a lon  
0327D0: 67 20 74 69 6D 65 2C 20 61 66 74 65 72 20 73 75 | g time, after su  
0327E0: 63 68 20 64 69 73 73 6F 6C 75 74 69 6F 6E 73 2C | ch dissolutions,  
0327F0: 20 74 6F 20 63 61 75 73 65 20 6F 74 68 65 72 73 | to cause others

032800: 20 74 6F 20 62 65 20 65 6C 65 63 74 65 64 3B 20 | to be elected;  
032810: 77 68 65 72 65 62 79 20 74 68 65 20 4C 65 67 69 | whereby the Legi  
032820: 73 6C 61 74 69 76 65 20 70 6F 77 65 72 73 2C 20 | slative powers,  
032830: 69 6E 63 61 70 61 62 6C 65 20 6F 66 20 41 6E 6E | incapable of Ann  
032840: 69 68 69 6C 61 74 69 6F 6E 2C 20 68 61 76 65 20 | ihilation, have  
032850: 72 65 74 75 72 6E 65 64 20 74 6F 20 74 68 65 20 | returned to the  
032860: 50 65 6F 70 6C 65 20 61 74 20 6C 61 72 67 65 20 | People at large  
032870: 66 6F 72 20 74 68 65 69 72 20 65 78 65 72 63 69 | for their exerci  
032880: 73 65 3B 20 74 68 65 20 53 74 61 74 65 20 72 65 | se; the State re  
032890: 6D 61 69 6E 69 6E 67 20 69 6E 20 74 68 65 20 6D | maining in the m  
0328A0: 65 61 6E 20 74 69 6D 65 20 65 78 70 6F 73 65 64 | ean time exposed  
0328B0: 20 74 6F 20 61 6C 6C 20 74 68 65 20 64 61 6E 67 | to all the dang  
0328C0: 65 72 73 20 6F 66 20 69 6E 76 61 73 69 6F 6E 20 | ers of invasion  
0328D0: 66 72 6F 6D 20 77 69 74 68 6F 75 74 2C 20 61 6E | from without, an  
0328E0: 64 20 63 6F 6E 76 75 6C 73 69 6F 6E 73 20 77 69 | d convulsions wi  
0328F0: 74 68 69 6E 2E 0D 0A 0D 0A 48 65 20 68 61 73 20 | thin.....He has

032900: 65 6E 64 65 61 76 6F 75 72 65 64 20 74 6F 20 70 | endeavoured to p  
032910: 72 65 76 65 6E 74 20 74 68 65 20 70 6F 70 75 6C | revent the popul  
032920: 61 74 69 6F 6E 20 6F 66 20 74 68 65 73 65 20 53 | ation of these S  
032930: 74 61 74 65 73 3B 20 66 6F 72 20 74 68 61 74 20 | tates; for that  
032940: 70 75 72 70 6F 73 65 20 6F 62 73 74 72 75 63 74 | purpose obstruct  
032950: 69 6E 67 20 74 68 65 20 4C 61 77 73 20 66 6F 72 | ing the Laws for  
032960: 20 4E 61 74 75 72 61 6C 69 7A 61 74 69 6F 6E 20 | Naturalization  
032970: 6F 66 20 46 6F 72 65 69 67 6E 65 72 73 3B 20 72 | of Foreigners; r  
032980: 65 66 75 73 69 6E 67 20 74 6F 20 70 61 73 73 20 | efusing to pass  
032990: 6F 74 68 65 72 73 20 74 6F 20 65 6E 63 6F 75 72 | others to encour  
0329A0: 61 67 65 20 74 68 65 69 72 20 6D 69 67 72 61 74 | age their migrat  
0329B0: 69 6F 6E 73 20 68 69 74 68 65 72 2C 20 61 6E 64 | ions hither, and  
0329C0: 20 72 61 69 73 69 6E 67 20 74 68 65 20 63 6F 6E | raising the con  
0329D0: 64 69 74 69 6F 6E 73 20 6F 66 20 6E 65 77 20 41 | ditions of new A  
0329E0: 70 70 72 6F 70 72 69 61 74 69 6F 6E 73 20 6F 66 | ppropriations of  
0329F0: 20 4C 61 6E 64 73 2E 0D 0A 0D 0A 48 65 20 68 61 | Lands.....He ha

032A00:	73 20 6F 62 73 74 72 75 63 74 65 64 20 74 68 65	s obstructed the
032A10:	20 41 64 6D 69 6E 69 73 74 72 61 74 69 6F 6E 20	Administration
032A20:	6F 66 20 4A 75 73 74 69 63 65 2C 20 62 79 20 72	of Justice, by r
032A30:	65 66 75 73 69 6E 67 20 68 69 73 20 41 73 73 65	efusing his Asse
032A40:	6E 74 20 74 6F 20 4C 61 77 73 20 66 6F 72 20 65	nt to Laws for e
032A50:	73 74 61 62 6C 69 73 68 69 6E 67 20 4A 75 64 69	stablishing Judi
032A60:	63 69 61 72 79 20 70 6F 77 65 72 73 2E 0D 0A 0D	ciary powers....
032A70:	0A 48 65 20 68 61 73 20 6D 61 64 65 20 4A 75 64	.He has made Jud
032A80:	67 65 73 20 64 65 70 65 6E 64 65 6E 74 20 6F 6E	ges dependent on
032A90:	20 68 69 73 20 57 69 6C 6C 20 61 6C 6F 6E 65 2C	his Will alone,
032AA0:	20 66 6F 72 20 74 68 65 20 74 65 6E 75 72 65 20	for the tenure
032AB0:	6F 66 20 74 68 65 69 72 20 6F 66 66 69 63 65 73	of their offices
032AC0:	2C 20 61 6E 64 20 74 68 65 20 61 6D 6F 75 6E 74	, and the amount
032AD0:	20 61 6E 64 20 70 61 79 6D 65 6E 74 20 6F 66 20	and payment of
032AE0:	74 68 65 69 72 20 73 61 6C 61 72 69 65 73 2E 0D	their salaries..
032AF0:	0A 0D 0A 48 65 20 68 61 73 20 65 72 65 63 74 65	...He has erecte
032B00:	64 20 61 20 6D 75 6C 74 69 74 75 64 65 20 6F 66	d a multitude of
032B10:	20 4E 65 77 20 4F 66 66 69 63 65 73 2C 20 61 6E	New Offices, an
032B20:	64 20 73 65 6E 74 20 68 69 74 68 65 72 20 73 77	d sent hither sw
032B30:	61 72 6D 73 20 6F 66 20 4F 66 66 69 63 65 72 73	arms of Officers
032B40:	20 74 6F 20 68 61 72 72 61 73 73 20 6F 75 72 20	to harrass our
032B50:	70 65 6F 70 6C 65 2C 20 61 6E 64 20 65 61 74 20	people, and eat
032B60:	6F 75 74 20 74 68 65 69 72 20 73 75 62 73 74 61	out their subst
032B70:	6E 63 65 2E 0D 0A 0D 0A 48 65 20 68 61 73 20 6B	nce.....He has k
032B80:	65 70 74 20 61 6D 6F 6E 67 20 75 73 2C 20 69 6E	ept among us, in
032B90:	20 74 69 6D 65 73 20 6F 66 20 70 65 61 63 65 2C	times of peace,
032BA0:	20 53 74 61 6E 64 69 6E 67 20 41 72 6D 69 65 73	Standing Armies
032BB0:	20 77 69 74 68 6F 75 74 20 74 68 65 20 43 6F 6E	without the Con
032BC0:	73 65 6E 74 20 6F 66 20 6F 75 72 20 6C 65 67 69	sent of our legi
032BD0:	73 6C 61 74 75 72 65 73 2E 0D 0A 0D 0A 48 65 20	slatures.....He
032BE0:	68 61 73 20 61 66 66 65 63 74 65 64 20 74 6F 20	has affected to
032BF0:	72 65 6E 64 65 72 20 74 68 65 20 4D 69 6C 69 74	render the Milit

032C00:	61 72 79 20 69 6E 64 65 70 65 6E 64 65 6E 74 20	ary independent
032C10:	6F 66 20 61 6E 64 20 73 75 70 65 72 69 6F 72 20	of and superior
032C20:	74 6F 20 74 68 65 20 43 69 76 69 6C 20 70 6F 77	to the Civil pow
032C30:	65 72 2E 0D 0A 0D 0A 48 65 20 68 61 73 20 63 6F	er.....He has co
032C40:	6D 62 69 6E 65 64 20 77 69 74 68 20 6F 74 68 65	mbined with othe
032C50:	72 73 20 74 6F 20 73 75 62 6A 65 63 74 20 75 73	rs to subject us
032C60:	20 74 6F 20 61 20 6A 75 72 69 73 64 69 63 74 69	to a jurisdicti
032C70:	6F 6E 20 66 6F 72 65 69 67 6E 20 74 6F 20 6F 75	on foreign to ou
032C80:	72 20 63 6F 6E 73 74 69 74 75 74 69 6F 6E 2C 20	r constitution,
032C90:	61 6E 64 20 75 6E 61 63 6B 6E 6F 77 6C 65 64 67	and unacknowledg
032CA0:	65 64 20 62 79 20 6F 75 72 20 6C 61 77 73 3B 20	ed by our laws;
032CB0:	67 69 76 69 6E 67 20 68 69 73 20 41 73 73 65 6E	giving his Assen
032CC0:	74 20 74 6F 20 74 68 65 69 72 20 41 63 74 73 20	t to their Acts
032CD0:	6F 66 20 70 72 65 74 65 6E 64 65 64 20 4C 65 67	of pretended Leg
032CE0:	69 73 6C 61 74 69 6F 6E 3A 0D 0A 0D 0A 46 6F 72	islation:....For
032CF0:	20 51 75 61 72 74 65 72 69 6E 67 20 6C 61 72 67	Quartering larg
032D00:	65 20 62 6F 64 69 65 73 20 6F 66 20 61 72 6D 65	e bodies of arme
032D10:	64 20 74 72 6F 6F 70 73 20 61 6D 6F 6E 67 20 75	d troops among u
032D20:	73 3A 0D 0A 0D 0A 46 6F 72 20 70 72 6F 74 65 63	s:....For protec
032D30:	74 69 6E 67 20 74 68 65 6D 2C 20 62 79 20 61 20	ting them, by a
032D40:	6D 6F 63 6B 20 54 72 69 61 6C 2C 20 66 72 6F 6D	mock Trial, from
032D50:	20 70 75 6E 69 73 68 6D 65 6E 74 20 66 6F 72 20	punishment for
032D60:	61 6E 79 20 4D 75 72 64 65 72 73 20 77 68 69 63	any Murders whic
032D70:	68 20 74 68 65 79 20 73 68 6F 75 6C 64 20 63 6F	h they should co
032D80:	6D 6D 69 74 20 6F 6E 20 74 68 65 20 49 6E 68 61	mmit on the Inha
032D90:	62 69 74 61 6E 74 73 20 6F 66 20 74 68 65 73 65	bitants of these
032DA0:	20 53 74 61 74 65 73 3A 0D 0A 0D 0A 46 6F 72 20	States:....For
032DB0:	63 75 74 74 69 6E 67 20 6F 66 66 20 6F 75 72 20	cutting off our
032DC0:	54 72 61 64 65 20 77 69 74 68 20 61 6C 6C 20 70	Trade with all p
032DD0:	61 72 74 73 20 6F 66 20 74 68 65 20 77 6F 72 6C	arts of the worl
032DE0:	64 3A 0D 0A 0D 0A 46 6F 72 20 69 6D 70 6F 73 69	d:....For imposi
032DF0:	6E 67 20 54 61 78 65 73 20 6F 6E 20 75 73 20 77	ng Taxes on us w

032E00: 69 74 68 6F 75 74 20 6F 75 72 20 43 6F 6E 73 65 | ithout our Conse  
032E10: 6E 74 3A 0D 0A 0D 0A 46 6F 72 20 64 65 70 72 69 | nt:....For depri  
032E20: 76 69 6E 67 20 75 73 20 69 6E 20 6D 61 6E 79 20 | ving us in many  
032E30: 63 61 73 65 73 2C 20 6F 66 20 74 68 65 20 62 65 | cases, of the be  
032E40: 6E 65 66 69 74 73 20 6F 66 20 54 72 69 61 6C 20 | nefits of Trial  
032E50: 62 79 20 4A 75 72 79 3A 0D 0A 0D 0A 46 6F 72 20 | by Jury:....For  
032E60: 74 72 61 6E 73 70 6F 72 74 69 6E 67 20 75 73 20 | transporting us  
032E70: 62 65 79 6F 6E 64 20 53 65 61 73 20 74 6F 20 62 | beyond Seas to b  
032E80: 65 20 74 72 69 65 64 20 66 6F 72 20 70 72 65 74 | e tried for pret  
032E90: 65 6E 64 65 64 20 6F 66 66 65 6E 63 65 73 0D 0A | ended offences..  
032EA0: 0D 0A 46 6F 72 20 61 62 6F 6C 69 73 68 69 6E 67 | ..For abolishing  
032EB0: 20 74 68 65 20 66 72 65 65 20 53 79 73 74 65 6D | the free System  
032EC0: 20 6F 66 20 45 6E 67 6C 69 73 68 20 4C 61 77 73 | of English Laws  
032ED0: 20 69 6E 20 61 20 6E 65 69 67 68 62 6F 75 72 69 | in a neighbouri  
032EE0: 6E 67 20 50 72 6F 76 69 6E 63 65 2C 20 65 73 74 | ng Province, est  
032EF0: 61 62 6C 69 73 68 69 6E 67 20 74 68 65 72 65 69 | ablishing therei

032F00: 6E 20 61 6E 20 41 72 62 69 74 72 61 72 79 20 67 | n an Arbitrary g  
032F10: 6F 76 65 72 6E 6D 65 6E 74 2C 20 61 6E 64 20 65 | overnment, and e  
032F20: 6E 6C 61 72 67 69 6E 67 20 69 74 73 20 42 6F 75 | nlarging its Bou  
032F30: 6E 64 61 72 69 65 73 20 73 6F 20 61 73 20 74 6F | ndaries so as to  
032F40: 20 72 65 6E 64 65 72 20 69 74 20 61 74 20 6F 6E | render it at on  
032F50: 63 65 20 61 6E 20 65 78 61 6D 70 6C 65 20 61 6E | ce an example an  
032F60: 64 20 66 69 74 20 69 6E 73 74 72 75 6D 65 6E 74 | d fit instrument  
032F70: 20 66 6F 72 20 69 6E 74 72 6F 64 75 63 69 6E 67 | for introducing  
032F80: 20 74 68 65 20 73 61 6D 65 20 61 62 73 6F 6C 75 | the same absolu  
032F90: 74 65 20 72 75 6C 65 20 69 6E 74 6F 20 74 68 65 | te rule into the  
032FA0: 73 65 20 43 6F 6C 6F 6E 69 65 73 3A 0D 0A 0D 0A | se Colonies:....  
032FB0: 46 6F 72 20 74 61 6B 69 6E 67 20 61 77 61 79 20 | For taking away  
032FC0: 6F 75 72 20 43 68 61 72 74 65 72 73 2C 20 61 62 | our Charters, ab  
032FD0: 6F 6C 69 73 68 69 6E 67 20 6F 75 72 20 6D 6F 73 | olishing our mos  
032FE0: 74 20 76 61 6C 75 61 62 6C 65 20 4C 61 77 73 2C | t valuable Laws,  
032FF0: 20 61 6E 64 20 61 6C 74 65 72 69 6E 67 20 66 75 | and altering fu

033000: 6E 64 61 6D 65 6E 74 61	6C 6C 79 20 74 68 65 20	ndamentally the
033010: 46 6F 72 6D 73 20 6F 66	20 6F 75 72 20 47 6F 76	Forms of our Gov
033020: 65 72 6E 6D 65 6E 74 73	3A 0D 0A 0D 0A 46 6F 72	ernments:....For
033030: 20 73 75 73 70 65 6E 64	69 6E 67 20 6F 75 72 20	suspending our
033040: 6F 77 6E 20 4C 65 67 69	73 6C 61 74 75 72 65 73	own Legislatures
033050: 2C 20 61 6E 64 20 64 65	63 6C 61 72 69 6E 67 20	, and declaring
033060: 74 68 65 6D 73 65 6C 76	65 73 20 69 6E 76 65 73	themselves inves
033070: 74 65 64 20 77 69 74 68	20 70 6F 77 65 72 20 74	ted with power t
033080: 6F 20 6C 65 67 69 73 6C	61 74 65 20 66 6F 72 20	o legislate for
033090: 75 73 20 69 6E 20 61 6C	6C 20 63 61 73 65 73 20	us in all cases
0330A0: 77 68 61 74 73 6F 65 76	65 72 2E 0D 0A 0D 0A 48	whatsoever.....H
0330B0: 65 20 68 61 73 20 61 62	64 69 63 61 74 65 64 20	e has abdicated
0330C0: 47 6F 76 65 72 6E 6D 65	6E 74 20 68 65 72 65 2C	Government here,
0330D0: 20 62 79 20 64 65 63 6C	61 72 69 6E 67 20 75 73	by declaring us
0330E0: 20 6F 75 74 20 6F 66 20	68 69 73 20 50 72 6F 74	out of his Prot
0330F0: 65 63 74 69 6F 6E 20 61	6E 64 20 77 61 67 69 6E	ection and wagin
033100: 67 20 57 61 72 20 61 67	61 69 6E 73 74 20 75 73	g War against us
033110: 2E 0D 0A 0D 0A 48 65 20	68 61 73 20 70 6C 75 6E	.....He has plun
033120: 64 65 72 65 64 20 6F 75	72 20 73 65 61 73 2C 20	dered our seas,
033130: 72 61 76 61 67 65 64 20	6F 75 72 20 43 6F 61 73	ravaged our Coas
033140: 74 73 2C 20 62 75 72 6E	74 20 6F 75 72 20 74 6F	ts, burnt our to
033150: 77 6E 73 2C 20 61 6E 64	20 64 65 73 74 72 6F 79	wns, and destroy
033160: 65 64 20 74 68 65 20 6C	69 76 65 73 20 6F 66 20	ed the lives of
033170: 6F 75 72 20 70 65 6F 70	6C 65 2E 0D 0A 0D 0A 48	our people.....H
033180: 65 20 69 73 20 61 74 20	74 68 69 73 20 74 69 6D	e is at this tim
033190: 65 20 74 72 61 6E 73 70	6F 72 74 69 6E 67 20 6C	e transporting l
0331A0: 61 72 67 65 20 41 72 6D	69 65 73 20 6F 66 20 66	arge Armies of f
0331B0: 6F 72 65 69 67 6E 20 4D	65 72 63 65 6E 61 72 69	oreign Mercenari
0331C0: 65 73 20 74 6F 20 63 6F	6D 70 6C 65 61 74 20 74	es to compleat t
0331D0: 68 65 20 77 6F 72 6B 73	20 6F 66 20 64 65 61 74	he works of deat
0331E0: 68 2C 20 64 65 73 6F 6C	61 74 69 6F 6E 20 61 6E	h, desolation an
0331F0: 64 20 74 79 72 61 6E 6E	79 2C 20 61 6C 72 65 61	d tyranny, alrea

033200: 64 79 20 62 65 67 75 6E 20 77 69 74 68 20 63 69 | dy begun with ci  
033210: 72 63 75 6D 73 74 61 6E 63 65 73 20 6F 66 20 43 | rcumstances of C  
033220: 72 75 65 6C 74 79 20 26 20 70 65 72 66 69 64 79 | ruelty & perfidy  
033230: 20 73 63 61 72 63 65 6C 79 20 70 61 72 61 6C 6C | scarcely parall  
033240: 65 6C 65 64 20 69 6E 20 74 68 65 20 6D 6F 73 74 | eled in the most  
033250: 20 62 61 72 62 61 72 6F 75 73 20 61 67 65 73 2C | barbarous ages,  
033260: 20 61 6E 64 20 74 6F 74 61 6C 6C 79 20 75 6E 77 | and totally unw  
033270: 6F 72 74 68 79 20 74 68 65 20 48 65 61 64 20 6F | orthy the Head o  
033280: 66 20 61 20 63 69 76 69 6C 69 7A 65 64 20 6E 61 | f a civilized na  
033290: 74 69 6F 6E 2E 0D 0A 0D 0A 48 65 20 68 61 73 20 | tion.....He has  
0332A0: 63 6F 6E 73 74 72 61 69 6E 65 64 20 6F 75 72 20 | constrained our  
0332B0: 66 65 6C 6C 6F 77 20 43 69 74 69 7A 65 6E 73 20 | fellow Citizens  
0332C0: 74 61 6B 65 6E 20 43 61 70 74 69 76 65 20 6F 6E | taken Captive on  
0332D0: 20 74 68 65 20 68 69 67 68 20 53 65 61 73 20 74 | the high Seas t  
0332E0: 6F 20 62 65 61 72 20 41 72 6D 73 20 61 67 61 69 | o bear Arms agai  
0332F0: 6E 73 74 20 74 68 65 69 72 20 43 6F 75 6E 74 72 | nst their Countr

033300: 79 2C 20 74 6F 20 62 65 63 6F 6D 65 20 74 68 65 | y, to become the  
033310: 20 65 78 65 63 75 74 69 6F 6E 65 72 73 20 6F 66 | executioners of  
033320: 20 74 68 65 69 72 20 66 72 69 65 6E 64 73 20 61 | their friends a  
033330: 6E 64 20 42 72 65 74 68 72 65 6E 2C 20 6F 72 20 | nd Brethren, or  
033340: 74 6F 20 66 61 6C 6C 20 74 68 65 6D 73 65 6C 76 | to fall themselv  
033350: 65 73 20 62 79 20 74 68 65 69 72 20 48 61 6E 64 | es by their Hand  
033360: 73 2E 0D 0A 0D 0A 48 65 20 68 61 73 20 65 78 63 | s.....He has exc  
033370: 69 74 65 64 20 64 6F 6D 65 73 74 69 63 20 69 6E | ited domestic in  
033380: 73 75 72 72 65 63 74 69 6F 6E 73 20 61 6D 6F 6E | surrections amon  
033390: 67 73 74 20 75 73 2C 20 61 6E 64 20 68 61 73 20 | ght us, and has  
0333A0: 65 6E 64 65 61 76 6F 75 72 65 64 20 74 6F 20 62 | endeavoured to b  
0333B0: 72 69 6E 67 20 6F 6E 20 74 68 65 20 69 6E 68 61 | ring on the inha  
0333C0: 62 69 74 61 6E 74 73 20 6F 66 20 6F 75 72 20 66 | bitants of our f  
0333D0: 72 6F 6E 74 69 65 72 73 2C 20 74 68 65 20 6D 65 | rontiers, the me  
0333E0: 72 63 69 6C 65 73 73 20 49 6E 64 69 61 6E 20 53 | rciless Indian S  
0333F0: 61 76 61 67 65 73 2C 20 77 68 6F 73 65 20 6B 6E | avages, whose kn

033400: 6F 77 6E 20 72 75 6C 65 20 6F 66 20 77 61 72 66 | own rule of warf  
033410: 61 72 65 2C 20 69 73 20 61 6E 20 75 6E 64 69 73 | are, is an undis  
033420: 74 69 6E 67 75 69 73 68 65 64 20 64 65 73 74 72 | tinguished destr  
033430: 75 63 74 69 6F 6E 20 6F 66 20 61 6C 6C 20 61 67 | uction of all ag  
033440: 65 73 2C 20 73 65 78 65 73 20 61 6E 64 20 63 6F | es, sexes and co  
033450: 6E 64 69 74 69 6F 6E 73 2E 0D 0A 0D 0A 49 6E 20 | nditions.....In  
033460: 65 76 65 72 79 20 73 74 61 67 65 20 6F 66 20 74 | every stage of t  
033470: 68 65 73 65 20 4F 70 70 72 65 73 73 69 6F 6E 73 | hese Oppressions  
033480: 20 57 65 20 68 61 76 65 20 50 65 74 69 74 69 6F | We have Petitio  
033490: 6E 65 64 20 66 6F 72 20 52 65 64 72 65 73 73 20 | ned for Redress  
0334A0: 69 6E 20 74 68 65 20 6D 6F 73 74 20 68 75 6D 62 | in the most humb  
0334B0: 6C 65 20 74 65 72 6D 73 3A 20 4F 75 72 20 72 65 | le terms: Our re  
0334C0: 70 65 61 74 65 64 20 50 65 74 69 74 69 6F 6E 73 | peated Petitions  
0334D0: 20 68 61 76 65 20 62 65 65 6E 20 61 6E 73 77 65 | have been answe  
0334E0: 72 65 64 20 6F 6E 6C 79 20 62 79 20 72 65 70 65 | red only by repe  
0334F0: 61 74 65 64 20 69 6E 6A 75 72 79 2E 20 41 20 50 | ated injury. A P

033500: 72 69 6E 63 65 20 77 68 6F 73 65 20 63 68 61 72 | rince whose char  
033510: 61 63 74 65 72 20 69 73 20 74 68 75 73 20 6D 61 | acter is thus ma  
033520: 72 6B 65 64 20 62 79 20 65 76 65 72 79 20 61 63 | rked by every ac  
033530: 74 20 77 68 69 63 68 20 6D 61 79 20 64 65 66 69 | t which may defi  
033540: 6E 65 20 61 20 54 79 72 61 6E 74 2C 20 69 73 20 | ne a Tyrant, is  
033550: 75 6E 66 69 74 20 74 6F 20 62 65 20 74 68 65 20 | unfit to be the  
033560: 72 75 6C 65 72 20 6F 66 20 61 20 66 72 65 65 20 | ruler of a free  
033570: 70 65 6F 70 6C 65 2E 0D 0A 0D 0A 4E 6F 72 20 68 | people.....Nor h  
033580: 61 76 65 20 57 65 20 62 65 65 6E 20 77 61 6E 74 | ave We been want  
033590: 69 6E 67 20 69 6E 20 61 74 74 65 6E 74 69 6F 6E | ing in attention  
0335A0: 73 20 74 6F 20 6F 75 72 20 42 72 69 74 74 69 73 | s to our Brittis  
0335B0: 68 20 62 72 65 74 68 72 65 6E 2E 20 57 65 20 68 | h brethren. We h  
0335C0: 61 76 65 20 77 61 72 6E 65 64 20 74 68 65 6D 20 | ave warned them  
0335D0: 66 72 6F 6D 20 74 69 6D 65 20 74 6F 20 74 69 6D | from time to tim  
0335E0: 65 20 6F 66 20 61 74 74 65 6D 70 74 73 20 62 79 | e of attempts by  
0335F0: 20 74 68 65 69 72 20 6C 65 67 69 73 6C 61 74 75 | their legislatu

033600: 72 65 20 74 6F 20 65 78 74 65 6E 64 20 61 6E 20 | re to extend an  
033610: 75 6E 77 61 72 72 61 6E 74 61 62 6C 65 20 6A 75 | unwarrantable ju  
033620: 72 69 73 64 69 63 74 69 6F 6E 20 6F 76 65 72 20 | risdiction over  
033630: 75 73 2E 20 57 65 20 68 61 76 65 20 72 65 6D 69 | us. We have remi  
033640: 6E 64 65 64 20 74 68 65 6D 20 6F 66 20 74 68 65 | nded them of the  
033650: 20 63 69 72 63 75 6D 73 74 61 6E 63 65 73 20 6F | circumstances o  
033660: 66 20 6F 75 72 20 65 6D 69 67 72 61 74 69 6F 6E | f our emigration  
033670: 20 61 6E 64 20 73 65 74 74 6C 65 6D 65 6E 74 20 | and settlement  
033680: 68 65 72 65 2E 20 57 65 20 68 61 76 65 20 61 70 | here. We have ap  
033690: 70 65 61 6C 65 64 20 74 6F 20 74 68 65 69 72 20 | pealed to their  
0336A0: 6E 61 74 69 76 65 20 6A 75 73 74 69 63 65 20 61 | native justice a  
0336B0: 6E 64 20 6D 61 67 6E 61 6E 69 6D 69 74 79 2C 20 | nd magnanimity,  
0336C0: 61 6E 64 20 77 65 20 68 61 76 65 20 63 6F 6E 6A | and we have conj  
0336D0: 75 72 65 64 20 74 68 65 6D 20 62 79 20 74 68 65 | ured them by the  
0336E0: 20 74 69 65 73 20 6F 66 20 6F 75 72 20 63 6F 6D | ties of our com  
0336F0: 6D 6F 6E 20 6B 69 6E 64 72 65 64 20 74 6F 20 64 | mon kindred to d

033700: 69 73 61 76 6F 77 20 74 68 65 73 65 20 75 73 75 | isavow these usu  
033710: 72 70 61 74 69 6F 6E 73 2C 20 77 68 69 63 68 2C | rations, which,  
033720: 20 77 6F 75 6C 64 20 69 6E 65 76 69 74 61 62 6C | would inevitabl  
033730: 79 20 69 6E 74 65 72 72 75 70 74 20 6F 75 72 20 | y interrupt our  
033740: 63 6F 6E 6E 65 63 74 69 6F 6E 73 20 61 6E 64 20 | connections and  
033750: 63 6F 72 72 65 73 70 6F 6E 64 65 6E 63 65 2E 20 | correspondence.  
033760: 54 68 65 79 20 74 6F 6F 20 68 61 76 65 20 62 65 | They too have be  
033770: 65 6E 20 64 65 61 66 20 74 6F 20 74 68 65 20 76 | en deaf to the v  
033780: 6F 69 63 65 20 6F 66 20 6A 75 73 74 69 63 65 20 | oice of justice  
033790: 61 6E 64 20 6F 66 20 63 6F 6E 73 61 6E 67 75 69 | and of consanguini  
0337A0: 6E 69 74 79 2E 20 57 65 20 6D 75 73 74 2C 20 74 | nity. We must, t  
0337B0: 68 65 72 65 66 6F 72 65 2C 20 61 63 71 75 69 65 | herefore, acquie  
0337C0: 73 63 65 20 69 6E 20 74 68 65 20 6E 65 63 65 73 | sce in the neces  
0337D0: 73 69 74 79 2C 20 77 68 69 63 68 20 64 65 6E 6F | sity, which deno  
0337E0: 75 6E 63 65 73 20 6F 75 72 20 53 65 70 61 72 61 | unces our Separation, and hold t  
0337F0: 74 69 6F 6E 2C 20 61 6E 64 20 68 6F 6C 64 20 74 |

033800: 68 65 6D 2C 20 61 73 20 77 65 20 68 6F 6C 64 20 | hem, as we hold  
033810: 74 68 65 20 72 65 73 74 20 6F 66 20 6D 61 6E 6B | the rest of mankind, Enemies in  
033820: 69 6E 64 2C 20 45 6E 65 6D 69 65 73 20 69 6E 20 | War, in Peace Friends.....We, therefore,  
033830: 57 61 72 2C 20 69 6E 20 50 65 61 63 65 20 46 72 | the rest of mankind, Enemies in  
033840: 69 65 6E 64 73 2E 0D 0A 0D 0A 57 65 2C 20 74 68 | Friends.....We, therefore,  
033850: 65 72 65 66 6F 72 65 2C 20 74 68 65 20 52 65 70 | the representatives of the  
033860: 72 65 73 65 6E 74 61 74 69 76 65 73 20 6F 66 20 | General Congress  
033870: 74 68 65 20 75 6E 69 74 65 64 20 53 74 61 74 65 | the United States of America, in  
033880: 73 20 6F 66 20 41 6D 65 72 69 63 61 2C 20 69 6E | General Congress  
033890: 20 47 65 6E 65 72 61 6C 20 43 6F 6E 67 72 65 73 | the United States of America, in  
0338A0: 73 2C 20 41 73 73 65 6D 62 6C 65 64 2C 20 61 70 | Assembled, appealing to the Supreme  
0338B0: 70 65 61 6C 69 6E 67 20 74 6F 20 74 68 65 20 53 | Judge of the world for the  
0338C0: 75 70 72 65 6D 65 20 4A 75 64 67 65 20 6F 66 20 | rectitude of our intentions, d  
0338D0: 74 68 65 20 77 6F 72 6C 64 20 66 6F 72 20 74 68 | o, in the Name, and by Authority  
0338E0: 65 20 72 65 63 74 69 74 75 64 65 20 6F 66 20 6F | of the good People of these Colonies, solemnly  
0338F0: 75 72 20 69 6E 74 65 6E 74 69 6F 6E 73 2C 20 64 | publishing and declaring, That these  
033900: 6F 2C 20 69 6E 20 74 68 65 20 4E 61 6D 65 2C 20 | United Colonies are, and of Right  
033910: 61 6E 64 20 62 79 20 41 75 74 68 6F 72 69 74 79 | ought to be Free and Independent  
033920: 20 6F 66 20 74 68 65 20 67 6F 6F 64 20 50 65 6F | Colonies; that they are Absolved from all Allegiance to the British Crown, and  
033930: 70 6C 65 20 6F 66 20 74 68 65 73 65 20 43 6F 6C | they are Absolved from all Allegiance to the British Crown, and  
033940: 6F 6E 69 65 73 2C 20 73 6F 6C 65 6D 6E 6C 79 20 | they are Absolved from all Allegiance to the British Crown, and  
033950: 70 75 62 6C 69 73 68 20 61 6E 64 20 64 65 63 6C | they are Absolved from all Allegiance to the British Crown, and  
033960: 61 72 65 2C 20 54 68 61 74 20 74 6F 20 62 65 20 46 72 | they are Absolved from all Allegiance to the British Crown, and  
033970: 55 6E 69 74 65 64 20 43 6F 6C 6F 6E 69 65 73 20 | they are Absolved from all Allegiance to the British Crown, and  
033980: 61 72 65 2C 20 61 6E 64 20 6F 66 20 52 69 67 68 | they are Absolved from all Allegiance to the British Crown, and  
033990: 74 20 6F 75 67 68 74 20 74 6F 20 62 65 20 46 72 | they are Absolved from all Allegiance to the British Crown, and  
0339A0: 65 65 20 61 6E 64 20 49 6E 64 65 70 65 6E 64 65 | they are Absolved from all Allegiance to the British Crown, and  
0339B0: 6E 74 20 53 74 61 74 65 73 3B 20 74 68 61 74 20 | they are Absolved from all Allegiance to the British Crown, and  
0339C0: 74 68 65 79 20 61 72 65 20 41 62 73 6F 6C 76 65 | they are Absolved from all Allegiance to the British Crown, and  
0339D0: 64 20 66 72 6F 6D 20 61 6C 6C 20 41 6C 6C 65 67 | they are Absolved from all Allegiance to the British Crown, and  
0339E0: 69 61 6E 63 65 20 74 6F 20 74 68 65 20 42 72 69 | they are Absolved from all Allegiance to the British Crown, and  
0339F0: 74 69 73 68 20 43 72 6F 77 6E 2C 20 61 6E 64 20 | they are Absolved from all Allegiance to the British Crown, and

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033A00: 74 68 61 74 20 61 6C 6C 20 70 6F 6C 69 74 69 63 | that all politic
033A10: 61 6C 20 63 6F 6E 6E 65 63 74 69 6F 6E 20 62 65 | al connection be
033A20: 74 77 65 65 6E 20 74 68 65 6D 20 61 6E 64 20 74 | tween them and t
033A30: 68 65 20 53 74 61 74 65 20 6F 66 20 47 72 65 61 | he State of Grea
033A40: 74 20 42 72 69 74 61 69 6E 2C 20 69 73 20 61 6E | t Britain, is an
033A50: 64 20 6F 75 67 68 74 20 74 6F 20 62 65 20 74 6F | d ought to be to
033A60: 74 61 6C 6C 79 20 64 69 73 73 6F 6C 76 65 64 3B | tally dissolved;
033A70: 20 61 6E 64 20 74 68 61 74 20 61 73 20 46 72 65 | and that as Fre
033A80: 65 20 61 6E 64 20 49 6E 64 65 70 65 6E 64 65 6E | e and Independen
033A90: 74 20 53 74 61 74 65 73 2C 20 74 68 65 79 20 68 | t States, they h
033AA0: 61 76 65 20 66 75 6C 6C 20 50 6F 77 65 72 20 74 | ave full Power t
033AB0: 6F 20 6C 65 76 79 20 57 61 72 2C 20 63 6F 6E 63 | o levy War, conc
033AC0: 6C 75 64 65 20 50 65 61 63 65 2C 20 63 6F 6E 74 | lude Peace, cont
033AD0: 72 61 63 74 20 41 6C 6C 69 61 6E 63 65 73 2C 20 | ract Alliances,
033AE0: 65 73 74 61 62 6C 69 73 68 20 43 6F 6D 6D 65 72 | establish Commer
033AF0: 63 65 2C 20 61 6E 64 20 74 6F 20 64 6F 20 61 6C | ce, and to do al

033B00: 6C 20 6F 74 68 65 72 20 41 63 74 73 20 61 6E 64 | l other Acts and
033B10: 20 54 68 69 6E 67 73 20 77 68 69 63 68 20 49 6E | Things which In
033B20: 64 65 70 65 6E 64 65 6E 74 20 53 74 61 74 65 73 | dependent States
033B30: 20 6D 61 79 20 6F 66 20 72 69 67 68 74 20 64 6F | may of right do
033B40: 2E 20 41 6E 64 20 66 6F 72 20 74 68 65 20 73 75 | . And for the su
033B50: 70 70 6F 72 74 20 6F 66 20 74 68 69 73 20 44 65 | pport of this De
033B60: 63 6C 61 72 61 74 69 6F 6E 2C 20 77 69 74 68 20 | clarations, with
033B70: 61 20 66 69 72 6D 20 72 65 6C 69 61 6E 63 65 20 | a firm reliance
033B80: 6F 6E 20 74 68 65 20 70 72 6F 74 65 63 74 69 6F | on the protectio
033B90: 6E 20 6F 66 20 64 69 76 69 6E 65 20 50 72 6F 76 | n of divine Prov
033BA0: 69 64 65 6E 63 65 2C 20 77 65 20 6D 75 74 75 61 | idence, we mutua
033BB0: 6C 6C 79 20 70 6C 65 64 67 65 20 74 6F 20 65 61 | lly pledge to ea
033BC0: 63 68 20 6F 74 68 65 72 20 6F 75 72 20 4C 69 76 | ch other our Liv
033BD0: 65 73 2C 20 6F 75 72 20 46 6F 72 74 75 6E 65 73 | es, our Fortunes
033BE0: 20 61 6E 64 20 6F 75 72 20 73 61 63 72 65 64 20 | and our sacred
033BF0: 48 6F 6E 6F 72 2E 72 6F 77 6E 2C 20 61 6E 64 20 | Honor.rown, and

```

student@student-VirtualBox:~/Documents/CSC 415/Project/csc415-filesystem-MikeMikey200\$ █

## Who work on what table:

### Minh Dang

#### Milestone 1:

- Volume control block in vcb.h and vcb.c
- Free space map and free space management in fat.h and fat.c
- File separations
- Comments

#### Milestone 2:

- fs\_setcwd
- fs\_getcwd
- fs\_isDir
- fs\_isFile
- fs\_delete

- fs\_stat
- Directory miscellaneous functions in dirFunctionMisc.c
- fs\_rmdir
- fs\_mkdir
- Directory key functions in dirFunctionKey.c
- fs\_closedir
- fs\_readdir
- fs\_opendir
- Directory iterative functions in dirFunctionIter.c
- parsePath implementation and logic in parsePath.c and parsePath.h
- Directory loading and copy functions
- Directory find functions
- Directory initialization function
- Functions above are in dir.c
- Linux commands (cd, pwd, ls, md, and rm) implementation and debugging

#### Milestone 3:

- b\_open
- b\_seek
- b\_read
- b\_write
- b\_close
- File operation functions in b\_io.c
- GetFileInfo and FileInit in fsFunction.h and fsFunction.c
- Linux commands (cp, mv, touch, cat, cp2fs, and cp2l) implementation and debugging

### **Sabrina Diaz-Erazo**

#### Milestone 1:

- Root Directory initialization
- Debugging
- Helped with writeup

#### Milestone 2:

- started fs\_setcwd
- started fs\_getcwd
- started fs\_isFile
- started fs\_isDir

Milestone 3:

- started b\_open
- Debugging
- Comments

**Trinity Godwin**

Milestone 1:

- Helped with write up
- Debugging

Milestone 2:

- fs\_mkdir

Milestone 3:

- b\_read
- Debugging
- Comments