

Lab 7: FAT-12 Systems

This lab was to teach us how to read and interpret data about a file. We used the FAT-12 system, which allowed us to view many different properties of specific files. The first topic I learned about was the layout of a FAT-12 boot sector. This allowed me to see different factors of the boot sector, as well as root directory amounts, etc. I also looked at how one could automatically extract data from this sector in order to quickly gain information about it. This allowed us to see bytes/sector, sectors/cluster etc.

The last part of this lab taught me how to decode a root directory and view each of the files. I learned that each file in our case is a 32 bit string of data which we can extract our information. This specific part of the lab taught me the extreme importance of offsets and calculating them. If my offset calculation as well as my bit calculation were wrong, I'd extract the wrong data from the file, giving me misinformation. The last part of this was getting the size of the file. This part confused me. The size of the file is a 4 byte value, but when I calculated it, my results matched when only endianSwapping the 28th and 29th bits of the directory entry. Not sure why that was the case, but I went with it.