Quiz 3 Practice

Date: November 12, 2025

Name:

`#FATS = 1`
`Sectors/FAT = 2`
`#Reserved Sectors = 2`
`#Sectors/Cluster = 2`
`#RDEs = 4`
		`F8 00 00 FF FF 00 09 00`
		
		`06 FF 00 00 00 00 00 00`
		
		`00 00 00 00 00 00 00 00`
			`LONNIE  TXT 0x08 0x2E 0x00`
			
			`LONNIE      0x04 0x00 0xE9`

	`LONNIE IS SHORT` `FOR LONALD`	`LONALD  TXT 0x03 0x1A 0x00`	

`HAS A SUPER SOAKER`		`LONNIE JOHNSON`	`FOR YOUR MOM`

I have drawn a FAT8 filesystem above. Each rectangle represents one **cluster** of the filesystem. Assume the filesystem starts at the beginning of the volume (there is no partition table) LBA 0. **NOTE: the first data cluster is index 2.** The table below shows the structure of the RDE for this filesystem.

Field Name	Field Size (bytes)	Notes
File Name	8	
File Extension	3	
First Data Cluster	1	
File Size (bytes)	1	
Flags	1	`0x00` - Regular File, `0xE9` - Directory

1. (2 points) Label the logical block address of each cluster in the filesystem.

2. (1 point) How much free storage (in bytes) is available in the filesystem?

3. (2 points) Draw a tree that shows all files and directories in this filesystem.

4. (1 point) List the data cluster numbers occupied by the file `/LONNIE.TXT`.

5. (1 point) Write the file contents of `/LONNIE.TXT`.

6. (2 points) Create a new file in the filesystem called `/LONNIE/SQUIRT.ME`. Fill up the file with data of your choice.