**LAB 8 REPORT**

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**Summary:**

Lab 8 was about decoding the boot sectors of a fat 12 file system. The program would run the same as ls or dir in DOS. The first thing it did was use the same endian conversion as lab 7 and decoding function as lab 7 for the Fat-12 filesystem. We then had to run different functions that start at different offsets in the buffer. These offsets were described in the documentation of the lab. For each function, we had to manipulate the buffer data to turn it into printable information. For the Filename, we had to take the first 8 bits then add a dot then take the next three bits to get the filename and extension. For the attributes, I used a bitwise operator & to AND the key and the bit for each attribute together to check if the bit was set or not. For the date and time all that was required was shifting the bits so the ones you wanted were in the least significant position and anding the rest of them with 0 so that the only bits were the ones you were looking for.

**Output:**

mac-air-35:Lab08 vmal$ ./fat12ls image

                    Name:   mkdosfs

            Bytes/Sector:   512

         Sectors/Cluster:   16

        Reserved Sectors:   1

          Number of FATs:   2

  Root Directory entries:   224

         Logical sectors:   2880

       Medium descriptor:   0x00f0

             Sectors/FAT:   1

           Sectors/Track:   18

         Number of heads:   2

Number of Hidden Sectors:   0

Filename Attrib Time Date Size

16SEC   .TXT A 00:02:10: 69 1980/3/6 75

1SEC    .TXT A 00:02:10: 69 1980/3/6 75

2SEC    .TXT A 00:02:10: 69 1980/3/6 76

?2SEC   .TXT A 00:02:10: 69 1980/3/6 74

4SEC    .TXT A 00:02:10: 69 1980/3/6 75

8SEC    .TXT A 00:02:10: 69 1980/3/6 75

BIG     .LOG A 00:03:00: 96 1980/3/6 95

(R)ead Only (H)idden (S)ystem (A)rchive