Name: RUSHABH SHAH
Section: C
University ID: 728236509

Lab 7_8 Report

Summary:

In this lab 7 and 8, I explored FAT file-system and how to parse different attributes of file from boot sector. In lab7, We mainly implemented two function. The first one is the endianSwap. This function is utilized while interpreting various content of sector. The second function is decodeBootsector(). As the name suggests, it decodes the boot sector considering the appropriate offset and length for every content. I also made use of bitwise operators to achieve, where applicable, to achieve the goal.

Lab 7 output:

```
rushabhs@rushabh-Inspiron:~/Desktop/CPRE308/LAB7$ ./bsdump 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
rushabhs@rushabh-Inspiron:~/Desktop/CPRE308/LAB7$
```

Lab 8 focused on implementation of 'ls' command using lab 7's functions. To implement 'ls' command, we look at various attributes of each file, such as name, date, time, and size. Then to output the correct value, we swap bytes, shift bits, when necessary and combine them to return the appropriate value.

```
rushabhs@rushabh-Inspiron:~/Desktop/CPRE308/LAB8$ ./fat12ls image
Filename    Attrib  Time          Date          Size
16SEC.TXT       A       20:58:10        2002/11/6       331 Bytes.
1SEC.TXT        A       20:58:10        2002/11/6       331 Bytes.
2SEC.TXT        A       20:58:10        2002/11/6       332 Bytes.
4SEC.TXT        A       20:58:10        2002/11/6       331 Bytes.
8SEC.TXT        A       20:58:10        2002/11/6       331 Bytes.
BIG.LOG A       21:18:00        2002/11/6       62559 Bytes.
(R)ead Only (H)idden (S)ystem (A)rchive
rushabhs@rushabh-Inspiron:~/Desktop/CPRE308/LAB8$ sc
```