QUIZ 4 – File IO

Q1. Write a C program to use link() and symlink() systems calls to create a hard and softlink to a given file. Similarly create hard and soft link to the same file using command line utility ln. Now get the information of inode for each of the 4 links + original file using stat() or lstate() system calls and provide your observation about different or similarity in inode numbers.

Q2. Tree is a CLI which displays the directory tree on terminal window. Implement your own tree command using Directory Functions studied in the class.

Q3. Explain the differences between following commands using the three tables Process File Descriptor Table, Syste-Wide Open File Table and System-Wide iNode Table. Also If file1.txt is zero bytes before these calls were executed what will be the content after the execution.

```
char buf1[11]=”abcdefghij”;

char buf2[6]=”12345”;

int fd1 = open(“file1.txt”, r+);

write(fd1, buf1, 10);

int fd2 = open(“file1.txt”, r+);

write(fd2, buf2, 5);

int fd3 = 100;

dup2(fd2, fd3);

write(fd3, buf1, 5);
```