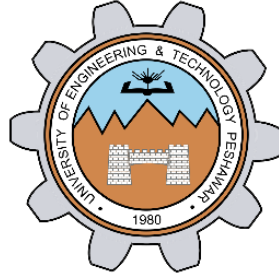


LAB NO 08
FILES AND DIRECTORIES



Fall 2024
CSE-302L Systems Programming Lab

Submitted by:

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Submitted to:

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LAB NO 08 FILES AND DIRECTORIES

Task 1

Implement `ls` command:

NAME

- `ls` - list directory contents

SYNOPSIS

- `ls [OPTION]... [FILE]...`

DESCRIPTION

List information about the FILES (the current directory by default). Sort entries alphabetically if none of `-cftuSUX` nor `--sort`. Mandatory arguments to long options are mandatory for short options too. `-l` use a long listing format. `ls-l` is used for listing directory contents in long format.

Code:

```
GNU nano 2.5.3 File: task01.c
#include <stdio.h>
#include <unistd.h>
#include <stdlib.h>
#include <sys/types.h>
#include <sys/stat.h>
#include <dirent.h>
#include <string.h>
#include <time.h>
#include <grp.h>
#include <pwd.h>

int main(int argc, char *argv[]) {
    struct stat statbuff;
    chdir(argv[1]);
    DIR *dir = opendir(".");
    struct group *g;
    struct passwd *p;

    struct dirent *direntp;
    while ((direntp = readdir(dir)) != NULL) {
        stat(direntp->d_name, &statbuff);
        if (S_ISDIR(statbuff.st_mode)) {
            printf("d");
        } else {
            printf("-");
        }
        if (statbuff.st_mode & S_IRUSR) {
            printf("r");
        } else {
            printf("-");
        }
        if (statbuff.st_mode & S_IWUSR) {
            printf("w");
        } else {
            printf("-");
        }
        if (statbuff.st_mode & S_IXUSR) {
            printf("x");
        } else {
            printf("-");
        }
        if (statbuff.st_mode & S_IRGRP) {
            printf("r");
        } else {
            printf("-");
        }
    }
}
```

Output:

```
hassan@hassan-HP-ProBook-4740s:~/Desktop/lab8$ nano task01
hassan@hassan-HP-ProBook-4740s:~/Desktop/lab8$ nano task01.c
hassan@hassan-HP-ProBook-4740s:~/Desktop/lab8$ task01
-rw-r--r-- 1 hassan hassan 649 Thu Dec  5 10:03:49 2024
name =lab9t1.c
drwxrwxr-x 3 hassan hassan 4096 Fri Jan 17 17:22:24 2025
name =.
-rw-r--r-- 1 hassan hassan 649 Thu Dec  5 10:06:26 2024
name =lab9t1.c.save.2
-rw-r--r-- 1 hassan hassan 2147 Thu Nov 28 01:26:34 2024
name =task01.c
-rwxrwxr-x 1 hassan hassan 7496 Thu Dec  5 09:05:21 2024
name =depthfirst
drwxrwxr-x 2 hassan hassan 4096 Thu Dec  5 09:14:21 2024
name =my
drwxr-xr-x 5 hassan hassan 4096 Mon Jan  6 18:45:59 2025
name =..
-rwxrwxr-x 1 hassan hassan 7348 Thu Nov 28 08:57:47 2024
name =test1
-rwxrwxr-x 1 hassan hassan 7608 Thu Dec  5 10:05:35 2024
name =depthfirst.o
-rw-rw-r-- 1 hassan hassan 419 Thu Dec  5 09:20:50 2024
name =lab9t1.c.save.1
-rwxrwxr-x 1 hassan hassan 7788 Thu Nov 28 09:05:30 2024
name =myls
-rw-rw-r-- 1 hassan hassan 554 Thu Dec  5 09:20:50 2024
name =lab9t1.c.save
-rw-rw-r-- 1 hassan hassan 63 Thu Nov 28 08:56:32 2024
name =1.c
-rwxrwxr-x 1 hassan hassan 7788 Thu Nov 28 09:05:50 2024
name =task01
```

CSE 302L: SYSTEMS PROGRAMMING LAB

LAB ASSESSMENT RUBRICS

Criteria & Point Assigned	Outstanding 2	Acceptable 1.5	Considerable 1	Below Expectations 0.5	Score
Attendance and Attentiveness in Lab PLO08	Attended in proper Time and attentive in Lab	Attended in proper Time but not attentive in Lab	Attended late but attentive in Lab	Attended late not attentive in Lab	
Capability of writing Program/ Algorithm/Drawing Flow Chart PLO1, PLO2, PLO3, PLO5,	Right attempt/ no errors and well formatted	Right attempt/ no errors but not well formatted	Right attempt/ minor errors and not well formatted	Wrong attempt	
Result or Output/ Completion of target in Lab PLO9,	100% target has been completed and well formatted.	75% target has been completed and well formatted.	50% target has been completed but not well formatted.	None of the outputs are correct	
Overall, Knowledge PLO10,	Demonstrates excellent knowledge of lab	Demonstrates good knowledge of lab	Has partial idea about the Lab and procedure followed	Has poor idea about the Lab and procedure followed	
Attention to Lab Report PLO4,	Submission of Lab Report in Proper Time i.e., in next day of lab., with proper documentation.	Submission of Lab Report in proper time but not with proper documentation.	Late Submission with proper documentation.	Late Submission Very poor documentation	

Instructor:

Name: _____

Signature: _____