ECE 282 Lab 5

# Command practice

(include the following in the report)

**Tutorial:** [**http://www.ee.surrey.ac.uk/Teaching/Unix/**](http://www.ee.surrey.ac.uk/Teaching/Unix/)

What do the following commands do?

* 1. cat (without any arguments)

## Hint: Ctrl-C to quit

Waits for input from the user, if the user gives the input than it will read the content of file.

* 1. cat file\_name

It prints out the contents of a given file.

* 1. cat < file\_name

## Hint: Create a text file to test what it does

Creates a file with a specified file name (would be “file\_name” with the example provided above).

* 1. cat > file\_name

Also creates a file with a specified file name (would be “file\_name” with the example provided above).

* 1. cat >> file\_name

Appends content to the specified file.

Write down the commands that can do the following tasks:

1. Print the list of all users to a file named “**userlist**”

## Hint: ‘who’ and redirection

who > userlist

1. Print out the line that contains your username in the file “**userlist**” to the terminal

**Hint 1:** grep **and ‘<’**

## Hint 2: or you can: cat + pipeline + grep

grep lgfloyd < userlist (“lgfloyd” = “nhdo” for examples given)

1. Print out the line that contains your username in the file “**userlist**” to a file named “**my\_user**”

## Hint: Same commands, but has additional ‘>’ Result:



grep lgfloyd < userlist > my\_user (“lgfloyd” = “nhdo” for examples given)

1. Append the line that contains another person’s username of your choice from the file “**userlist**” to the file “**my\_user**”

## Hint: Same commands, but has additional ‘>>’

**Result:**



grep rmeagher < userlist >> my\_user (“rmeagher” = “sarforst” for example given)

1. Reporting error

Assume that “invisible \_file” is NOT in the current directory where you execute the following code, so it will give you the error using “**perror”** function. The purpose of this lab is to help you understand **perror.**

perror\_file.c #include <stdio.h>

#include <stdlib.h> // for exit() function #include <sys/types.h>

#include <sys/stat.h> #include <fcntl.h>

int main(int argc, char \*argv[])

{

int fd;

if ( argc < 2 ){

printf("Usage: %s <filename>\n", argv[0]); printf("The file might exist or not.\n"); exit(1);

}

fd = open(argv[1], O\_RDONLY);

// printf will output user's formatted string, while perror will output

// the system error msg corresponding to errno if (fd == -1){

printf("Opening file \"%s\" failed.\n", argv[1]);

}

else{

printf("The file \"%s\" was opened w/o problem.\n", argv[1]);

}

return 0;

}

Modify the code so that it will try to change to a directory rather than access a file. What error did you get? Use perror appropriately in the code to show the error.

Text

Description automatically generated

Submit your code to Canvas by filename **perror\_dir.c**.

## Hint: chdir() function. You may need to add additional header files. Lookup man pages for reference.

NOTE:

From now on, the following practices will be graded as well:

1. Commenting; Your code must be commented.
2. Naming; The names that you chose for variables, constants, functions, etc must be self-descriptive.
3. Error reporting; Extensive use of perror/errno for reporting errors while doing system calls. (Think in advance)

# 3. Again, ls

3.18 Recursive ls Standard ls supports the -R option. This option lists the contents of a directory

and the contents of all directories below it. Try it. Modify ls3. c to support the -R option. Now revise the program so it prints out listing of all subdirectories and contents.

## Hint: Use the method found in the source codes of the book

Submit the code to Canvas. Separate the source code in files and use makefile for compilation. Please note the functions and lines that you added/altered in the lab report.

Added additional header files.

15748406 -rw-r--r--. 1 hessamla student 0 Feb 9 12:31 mfile

/\*

\* boolean: tells if arg names a directory

\*/

isadir(char \*str)

{

struct stat info;

return ( lstat(str,&info) != -1 && S\_ISDIR(info.st\_mode) );

}