UNIX SYSTEMS PROGRAMMING

By

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Previous Class

- Getting start with Linux / UNIX
- Files and Directories in UNIX
- Basic Uinx commands
  - passwd
  - date
  - who, whoami
  - mail, write
  - man
  - pwd
  - ls

Today's Agenda

- File and directory commands
- cat
- cp
- mv
- rm
- chmod
- cmp
- diff
- top

File & Directory commands

- Concatenating files using UNIX command
- We can concatenate the contents of two files using cat command
- Syntax: **cat** <file1> <file2> **>** <destFile>
- Example: Assume 2 files “first” and “second” available and concatenated result should be in a file named “firstsecond”
- cat first second > firstsecond
- Reads files first and second and combines these files to make file firstsecond

File & Directory commands

- Copying files
- We use the copy (***cp***) command to copy the contents of one file into another file or Copy files from one location to another
- ***Syntax:*** *cp [OPTION1] [OPTION2] ...* ***Source Destination***
- ***OPTIONS are optional***
- ***Source*** refers to the source filename and ***Destination*** refers to the destination filename or destination directory
- If the ***destination*** is a directory, the source file is copied into the destination directory with the same name as ***source***
- The ***source*** and ***destination*** can refer to absolute or relative path specification of the file location

File & Directory commands

- Copying files
- ***Syntax:*** *cp* ***Source Destination***
- Example: [SysPgm@labserver ~] $ **cp first finalfile**↵
- copies the contents of the file ***first*** into the file ***finalfile***
- if the file “finalfile” exist and used as the destination of ***cp*** command, the contents of this file will be overwritten

File & Directory commands

- cp command options

Options	Purpose
-f	if an existing destination file cannot be opened, remove it and try again
-i	prompt before overwrite
-l	link files instead of copying
-u	copy only when the SOURCE file is newer than the destination file or when the destination file is missing
-R or -r	copy directories recursively

File & Directory commands

- Moving (and Renaming) File / Directory
- Moving a file / directory means removing it from its current location and copying it into the new location
- ***Syntax: mv*** *[OPTION1] [OPTION2] ..* ***SOURCE DESTINATION***
- ***Source*** refers to the source file name/directory name and
- ***Destination*** refers to the destination filename or destination directory
- If the ***destination*** is a directory, the source file is moved into the destination directory with the same name as ***source***
- The ***source*** and ***destination*** can refer to absolute or relative path specification of the file location

File & Directory commands

- Moving (and Renaming) File / Directory
- *Syntax: mv [OPTION1] [OPTION2] ... SOURCE DESTINATION*
- Example: [SysPgm@labserver ~] $ mv finalwill finalwish↵
- *Moves file named finalwill to finalwish*
- *The file named finalwill will not be available in the system after this operation*
- Example: [SysPgm@labserver ~] $ mv myfile exercises/ ↵
- Moves the file named myfile to the directory exercises.
- *The file named myfile will be available inside exercise directory(not in current location)*

File & Directory commands

- mv command options

Options	Purpose
-f	This option replaces the file / directory if it exists already in the destination without prompting to the user. Note that this is the default if the standard input is not a terminal.
-i	This option prompts us, if we are trying to replace a file/directory in the destination.

File & Directory commands

- Moving (and Renaming) File / Directory
- Example: [SysPgm@labserver ~] $ mv file2 ../ ↲
- Moves the file named file2 to the parent directory (if write permission is available).
- Example: [SysPgm@labserver ~] $ mv –f first third ↲
- File “first” is moved to file “third” in same directory
- **This command has the effect of renaming the file first to third**
- What if a file named ***third*** is already exists in the current directory?
- The –f specified in the command will replace the existing file ***third***
- Example: [SysPgm@labserver ~] $ mv –i third first ↲
- will notify you before it attempts to replace the existing file and will prompt you if you are sure in replacing the existing one. If you type n, it would skip replacing.
- This command can be issued without –f or –i options [UNIX system assumes the option is –f [Default]].

File & Directory commands

- Removing Files and directories
- To remove a file we use the **rm** command
- *Syntax: rm [OPTION1] [OPTION2] ... [file names | directory names]*

File & Directory commands

Options	Purpose
-f	Remove all files in a directory without prompting the user. In a write-protected directory, however, files are never removed(whatever their permissions are), but no messages are Displayed.
-i	Interactive. Prompts for confirmation before removing any files. It overrides the -f option and remains in effect even if the standard input is not a terminal.
-R or -r	Recursively remove directories and subdirectories in the argument list. The directory will be emptied of files and removed. The user is normally prompted for removal of any write-protected files which the directory contains. Symbolic links that are encountered with this option will not be traversed. If the removal of a non-empty, write-protected directory is attempted, the utility will always fail (even if the -f option is used), resulting in an error message.

File & Directory commands

- Removing Files and directories
- To remove a file we use the **rm** command
- *Syntax: rm [OPTION1] [OPTION2] ... [file names | directory names]*
- To remove a file named ***help*** we use the command

rm help

- To remove a directory named ***exercises*** we use the command
- **rmdir exercises**

File & Directory commands

- Removing Files and directories
- To remove a file we use the **rm** command
- *Syntax: rm [OPTION1] [OPTION2] ... [file names | directory names]*
- To avoid inadvertently deleting a file, always use the **rm** command together with it's -i option.
- **rm -i *filename***
- This will prompt you to confirm that you want to remove a file from the current directory
- **rm -r *directory_name***
- This deletes all the contents of the directory including any subdirectories.

File & Directory commands

- Removing Files and directories
- To remove a file we use the **rm** command
- *Syntax: rm [OPTION1] [OPTION2] ... [file names | directory names]*
- To avoid inadvertently removing a directory, always use the **rm** command together with the –i option
- **rm -ir *directory_name***
- if the directory we want to delete is empty then use ***rmdir*** command
- **rmdir exercises**

THANK YOU