Shell Programming

A Necessity for all Programmers

Reading and Writing a File

Nagesh Karmali | Firuza Karmali

IITBX Infinite Learning

Department of Computer Science and Engineering
IIT Bombay

You will learn to ...

- Examine directory contents using various options
- Concatenate multiple files
- Display file statistics
- Copy, rename, and delete files

List Directory Contents – ls

- Options
  - classify: **-F**
  - in reverse order: **-r**
  - recursively: **-R**
  - long list format: **-l**
  - human readable size: **-h**
  - sort by time: **-t**
  - sort by size: **-S**
  - show hidden files: **-a**

Concatenate files

- Print contents of file on standard output (terminal)
  - **cat <filename>**
  - **cat <file1> <file2>**
- number all output lines: **-n**
- skip numbering blank lines: **-b**
- Create file2 from file1
  cat file1 > file2 where > is output redirection
- Appending content to a file from standard input
  cat >> file1
- Appending content to file2 from file1
  cat file1 >> file2
- Filename should not contain spaces

File Statistics – wc

- Print newline, word, and byte counts for each file
- **wc <file1> <file2> ... <fileN>**
  - Print line counts: **-l**
  - Print word counts: **-w**
  - Print byte counts: **-c**

Reading exit status

- Exit code (integer) is returned by every command
- Can be checked using **echo $?**

Code	Description	Example
0	No error.	Command executed successfully
1	General errors	Copying file which does not exists
2	Missing keyword/command	ls -P (ls: invalid option – 'P')
126	Command invoked cannot execute Permission error	Executing a script file which is not executable
127	Command not found	Writing cate instead of cat
130	Script terminated by Ctrl + C	cat > file1.txt hello **Ctrl + C**

Now, you can ...

- Use different options while listing directory contents
- Concatenate files
- Find out number of lines, words, characters in a file
- Check the exit code and what it means

Thank you