

**Operating Systems (CSE231)**  
**Assignment-1: Creating a Shell using Processes and Threads**  
**Documentation**

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Commands Handled:

a) Internal Commands:

- 1) cd
- 2) echo
- 3) pwd
- 4) exit
- 5) clear

b) External Commands:

- 1) ls
- 2) date
- 3) mkdir
- 4) rm
- 5) cat

Command: cd

Options: cd [-L | -P]

-L : Handle the operand dot-dot logically; symbolic link components shall not be resolved before dot-dot components are processed.

-P : Handle the operand dot-dot physically; symbolic link components shall be resolved before dot-dot components are processed.

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Command: echo

Options: echo [-n | -h]

-n : Removes end of line character (\n) from input string arguments

-h : Provides Information about using echo

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Command: pwd

Options: pwd [-L | -P]

-L : Instructs pwd to output the \$PWD environment variable contents, including symbolic links. If no option is specified, pwd assumes -L.

-P : Prints the path to the current directory. All the components are directory names, and symbolic links are resolved.

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Command: ls

Options: ls [-a | -m]

-a : do not ignore entries starting with .

-m : fill width with a comma separated list of entries

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Command: date

Options: date [-u]

-u : outputs UTC time

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Command: mkdir

Options: mkdir [-v]

-v : print a message for each created directory

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Command: rm

Options: rm [[]]

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Command: cat

Options: cat [[]]

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### **Bibliography:**

<https://www.geeksforgeeks.org/c-program-to-read-contents-of-whole-file/>  
<https://github.com/patoliyam/Basic-Shell-Implementation-in-C/blob/master/group-29-c-shell.c>  
<https://github.com/josealonso/microshell/blob/master/src/msh.c>  
<https://www.youtube.com/watch?v=S7M6pGCcjMc>  
<https://linux.die.net/man/1/date>  
<https://man7.org/linux/man-pages/man1/cd.1p.html>  
<https://phoenixnap.com/kb/pwd-linux>  
<https://codescracker.com/c/program/c-program-print-date.htm>  
<https://github.com/yadu007/Basic-Unix-Commands-Implementation/blob/master/cat.c>  
<https://man7.org/linux/man-pages/man1/mkdir.1.html>  
[https://www.tutorialspoint.com/c\\_standard\\_library/c\\_function\\_getenv.htm](https://www.tutorialspoint.com/c_standard_library/c_function_getenv.htm)

**Operating Systems: Three Easy Pieces by Andrea Arpaci-Dusseau and Remzi Arpaci-Dusseau**