

DOCUMENTATION

Assumptions:

- 1) For options only '-' short form is valid, and '--' long form is not valid.
- 2) Command and path lengths can be max 1000 .
- 3) Supports at max 2 options for single command at the same time.

Internal commands

1)cd

Description: changes the current working directory

Syntax:

cd [options]...[directory]

Options:

- L: forces to follow the symbolic links(default)
- P: use the physical directory structure
- ~: changes to the home directory
- /: changes to the root directory

Errors Handled:

- 1) If more than the required number of arguments are passed syntax error is shown(in this case max of 3 arguments)
- 2) Passing wrong options returns an error.

Test cases:

Cd
Cd ..
Cd /home/karan

2)pwd

Description: prints the current working directory

Syntax:

pwd [options].....

Options:

- L : print the value of \$PWD environment variable
- P: print the physical directory without any symbolic links

Errors Handled:

- 1) If more than the required number of arguments are passed, syntax error is shown(in this case, max of 2 arguments).
- 2) Passing wrong options returns an error.

Test cases:

```
pwd
pwd -P
pwd -L
```

3)echo

Description: prints the user input on the terminal

Syntax

```
Echo [options].....["String"]
```

Options:

- n: no newline character is added to the string
- help: displays the help for the echo command

Errors Handled:

- 1) If more than the required number of arguments are passed syntax error is shown(in this case max of 3 arguments).
- 2) Passing wrong options returns an error.

Test cases:

```
echo "hello"
echo -n "hello"
echo --help
```

External commands

1)ls

Description: print the files and directories in the current working directory

Syntax

ls [options].....

Options

- a: include the hidden files starting with “.”
- r: print the files in reverse order of sorting(default alphabetically)

Errors Handled:

- 1) If more than the required number of arguments are passed, syntax error is shown(in this case, max of 2 arguments).
- 2) Passing wrong options returns an error.

Test cases:

ls
ls -a
ls -r

2)cat

Description: concatenates files to standard output

Syntax

cat [options].....[files].....

Options:

- n: prints the line number for each line
- e: prints \$ at the end of each line(^M\$ if carriage return character is present)

Errors Handled:

- 1) File not exist if file entered doesn't exist
- 2) Invalid option if the option added by the user is not supported

Test cases:

cat ls.c

cat -n ls.c

cat -e ls.c

3)date

Description: display the date

Syntax

date [options]....

Options

-u: print coordinated universal time(UTC) the display is in GMT

-l: output date/time in ISO 8601 format.

Errors Handled:

- 1) Invalid option if the option added by the user is not supported
- 2) Too many arguments if any argument other than option is entered

Test cases:

date

date -u

date -l

date -u -l

4)rm

Description: delete the file

Syntax

rm [options].....[filename].....

Options:

- f: force delete the file(ignore non-existent files and no prompt)
- i: prompt before every removal

Errors Handled:

- 1) Invalid option if the option added by the user is not supported
- 2) File doesn't exist if the file added by the user doesn't exist

Test cases:

```
rm ls
rm -f ls date
rm -i ls
```

5)mkdir

Description: creates a folder

Syntax:

mkdir [options].....Directory.....

Options:

- p: no error if existing; make parent directories as needed
- v: print a message for each created directory

Errors Handled:

- 1) cannot create the directory if any directory in the path of the directory given by the user doesn't exist.
- 2) Invalid option if the option added by the user is not supported
- 3) Permission denied if trying to create a directory in a path which has no write permissions

Test cases:

```
mkdir /home/karan/assignment1/test
mkdir -p /king/test
mkdir -v /home/karan/assignment1/test
```