➔ PUB shell

I have tried to implement a shell for the assignment which works for 10 commands and deal with 2 flags each of each command. In my shell, one can give the flags either individually or if a combination is required then in concatenated format, like,

Flags format: “-v” or “-p” or else “-vp” or “-pv” but not as “-p -v” or “-v -p”.

In the shell, I have implemented all the 10 commands which were given:

1. cd:
    a. Flags: ‘-‘displays the last location you were at, -P: follows the physical path to the destination
    b. Description: it is used to change directories. You can use either give full path or just the name of directory/file (if in same directory) to move to that location.
    c. Error: we cannot give invalid flag and any wrong path given gives an error.
2. pwd
    a. Flags: -P(gives the physical directory), -help (displays info about pwd)
    b. Description: it is used to change directories. You can use either give full path or just the name of directory/file (if in same directory) to move to that location.
    c. Error: we cannot give invalid flag and any wrong path given gives an error.

3. echo:

    Flags: -e: (handles escape sequence), -n (no new line after text at end)

    Description:
    - ➔ echo will take whatever you write to it and display according to the flag selected. We can pass text without any flag.

    Error handled:
    - ➔ If wrong flag is given, it shows an error.
    - ➔ If text in “ “ or ‘ ‘, it removes them as in real echo
    - ➔ If ‘\’ is given for an escape sequence, it is omitted if not in -e mode.

4. History
    a. Flag: -c (clears history) -s (puts whatever follows into history)
    b. Description:
        - ➔ Every command written to shell that I have handled will get added to history. I maintain a .txt file for history.
    c. Error handled:
        - ➔ As such it had no corner case but when a command I have not handled is added, it is not added like real shell. I have created history.txt in my same folder in my user so permission denied error will never be an issue.
5. Exit
    a. Flag: no flag
    b. Description: exits the program
    c. Error handled: no error

6. Ls
    a. Flag: -a (display files starting with “.” as well), -r(displays in reverse alpha order)
    b. Description:

- ➔ Displays all the content at given path according to flag. We might also not pass a flag. I deal with display contents of only one file at a time (no multiple files) in same directory or at other address given by path.

c. Error:
- ➔ Shows error when wrong flag entered.
- ➔ Shows when wrong path for the directory given.

7. Rm
   a. Flag: -v (verbose, tells about the action performed), -i (asks user if you want to delete the file)
   b. Description: I only deal with removing files that are in same directory and do not remove by giving path. One can deal with any case of ls using my shell.
   c. Error:
      - ➔ Wrong flags are dealt.
      - ➔ It checks if we can delete from a directory or not. Gives permission denied if not possible.
      - ➔ Checks if the file to delete is actually present.
      - ➔ We cannot remove directories using rm.
8. Mkdir
   a. Flag: -v (tells about action performed), -p(is used to create all sets of directories given in path)
   b. Description:
      - ➔ It is used to create a new directory.
   c. Error:
      - ➔ We cannot create inside directories where permission is denied.
      - ➔ Flags are checked.
      - ➔ Checks if a directory already present. If in normal or -v mode this gives error. If in -p mode and path is given, if a similar file is made, then, it gives an error. If new file is asked, then, no error, like, if /gt/pt is already there, then it wouldn’t be made again. If /gt/pt/gg is tried, then, it will make it.
      - ➔ Checks if fewer arguments passed.
9. Date
   a. Flag: -u (shows UTC or GMT time), -R (shows in RFC 5322 format)
   b. Description:
      - ➔ It is used to show the time of system.
   c. Error:
      - ➔ Flags are checked.
10. Cat
    a. Flag: -n (displays the files with numbering of line), -E (adds $ at end of each line)
    b. Description: It is used to display multiple files.
    c. Error:
       - ➔ Flags are checked.
       - ➔ I have checked if fewer than necessary arguments are passed.