/\*

\* Mario Palacios

\* HOMEWORK 5

\*/

// INCLUDE LIBRARIES

#include <stdio.h>

#include <stdlib.h>

#include <string.h>

#include <ctype.h>

#include <sys/wait.h>

#define MAX\_LIST 14 // DEFINE NUM OF CMDS

#define MAX\_INPUT 1000 // DEFINE AMOUNT OF CMD ARGS

char \* cmds[MAX\_LIST] = // LISTING CMDS FOR CLI

{

"cd",

"exec",

"exit",

"gcc",

"ls",

"man",

"more",

"mv",

"rm",

"pwd",

"sh",

"touch",

"which",

"$PATH"

};

char rawInput[MAX\_INPUT]; // TEMP, TO BE PARSED

char\* token; // HOLDS INPUT, DURING TOKENIZING

char\* parsedStr[MAX\_INPUT]; // ARRAY TO HOLD STRINGS

int currentIndex = 0; // INDEX FOR PARSED STRING ARRAY

int main(int *argc*, char\* *argv*[]) {

if(argc == 1) {

fprintf(stderr, "Enter at least two arguments (filename and commands)\n");

exit(-1);

} else {

int i;

printf("CLI, Mario Palacios, CSC 139 - Section 06\n"); // SELF INDENTIFICATION

printf("Legal Commands: "); // PRINT LEGAL CMDS

for (i = 0; i < MAX\_LIST; i++) {

printf(" %s", cmds[i]);

}

rawInput[0] = 0;

printf("\n%d strings passed to argv[]\n", argc);

for(i = 1; i < argc; i++) { // CMD LIST FOR CLI

printf("next string is '%s'\n", argv[i]);

strcat(rawInput, argv[i]);

strcat(rawInput, " ");

printf("new string is '%s'\n", rawInput);

}

token = strtok(rawInput, ",;");

while (token != NULL) { // SEPERATE CMD, BY COMMAS

parsedStr[currentIndex] = token;

token = strtok(NULL, ",;");

currentIndex++;

}

for (i = 0; i < currentIndex; i++) { // TRIM WHITE SPACE

while(isspace(\*parsedStr[i])) {

parsedStr[i]++;

}

}

int currentCmd = 0;

for (i = 1; i < currentIndex; i++) {

while (currentCmd < MAX\_LIST) {

if (strncmp(cmds[currentCmd], parsedStr[i], strlen(cmds[currentCmd])) == 0) {

printf("CMD '%s' is one of the predefined.\n", parsedStr[i]);

system(parsedStr[i]);

}

currentCmd++;

}

}

system("touch example.txt; mv example.txt file2.txt; ls"); // SYS COMMANDS

}

}

Test #1

Script started on Tue 04 May 2021 10:42:04 PM PDT

[palacim@sp2:21]> ./cli ls -l, cd ..m,[K[K, pwd

CLI, Mario Palacios, CSC 139 - Section 06

Legal Commands: cd exec exit gcc ls man more mv rm pwd sh touch which $PATH

6 strings passed to argv[]

next string is 'ls'

new string is 'ls '

next string is '-l,'

new string is 'ls -l, '

next string is 'cd'

new string is 'ls -l, cd '

next string is '..,'

new string is 'ls -l, cd .., '

next string is 'pwd'

new string is 'ls -l, cd .., pwd '

CMD 'cd ..' is one of the predefined.

total 32

-rwx------ 1 palacim stdcpe 9176 May 4 22:35 a.out

-rwx------ 1 palacim stdcpe 9176 May 4 22:41 cli

-rw------- 1 palacim stdcpe 2600 May 4 22:41 cli.c

-rw------- 1 palacim stdcpe 4 May 4 00:03 filler.txt

-rw------- 1 palacim stdcpe 0 May 4 22:42 test1.txt

/gaia/class/student/palacim/csc139

[palacim@sp2:22]> exit

exit

Script done on Tue 04 May 2021 10:42:23 PM PDT

Test #2

Script started on Tue 04 May 2021 10:49:25 PM PDT

[palacim@sp2:21]> ./cli rm a.out, ls, gcc cli.c, ls -lt

CLI, Mario Palacios, CSC 139 - Section 06

Legal Commands: cd exec exit gcc ls man more mv rm pwd sh touch which $PATH

8 strings passed to argv[]

next string is 'rm'

new string is 'rm '

next string is 'a.out,'

new string is 'rm a.out, '

next string is 'ls,'

new string is 'rm a.out, ls, '

next string is 'gcc'

new string is 'rm a.out, ls, gcc '

next string is 'cli.c,'

new string is 'rm a.out, ls, gcc cli.c, '

next string is 'ls'

new string is 'rm a.out, ls, gcc cli.c, ls '

next string is '-lt'

new string is 'rm a.out, ls, gcc cli.c, ls -lt '

CMD 'ls' is one of the predefined.

a.out cli cli.c filler.txt test1.txt test2.txt

cli cli.c filler.txt test1.txt test2.txt

total 36

-rwx------ 1 palacim stdcpe 9176 May 4 22:49 a.out

-rw------- 1 palacim stdcpe 0 May 4 22:49 test2.txt

-rwx------ 1 palacim stdcpe 9176 May 4 22:49 cli

-rw------- 1 palacim stdcpe 2574 May 4 22:48 cli.c

-rw------- 1 palacim stdcpe 939 May 4 22:42 test1.txt

-rw------- 1 palacim stdcpe 4 May 4 00:03 filler.txt

[palacim@sp2:22]> exit

exit

Script done on Tue 04 May 2021 10:49:50 PM PDT

Test #3

Script started on Tue 04 May 2021 11:06:14 PM PDT

[palacim@sp2:21]> ./cli $PATH, more -V, sh

CLI, Mario Palacios, CSC 139 - Section 06

Legal Commands: cd exec exit gcc ls man more mv rm pwd sh touch which $PATH

5 strings passed to argv[]

next string is '/bin:/usr/bin:/sbin:/usr/sbin:/usr/local/bin:/etc:/usr/local/etc:/usr/bin/X11:/opt/bin:/usr/X11R6/bin:/usr/pkg/smlnj/bin:/usr/pkg/syn/bin:/usr/pkg/vcs/bin:/usr/lib/jvm/java-1.8.0-openjdk-1.8.0.292.b10-1.el7\_9.x86\_64/bin:.,'

new string is '/bin:/usr/bin:/sbin:/usr/sbin:/usr/local/bin:/etc:/usr/local/etc:/usr/bin/X11:/opt/bin:/usr/X11R6/bin:/usr/pkg/smlnj/bin:/usr/pkg/syn/bin:/usr/pkg/vcs/bin:/usr/lib/jvm/java-1.8.0-openjdk-1.8.0.292.b10-1.el7\_9.x86\_64/bin:., '

next string is 'more'

new string is '/bin:/usr/bin:/sbin:/usr/sbin:/usr/local/bin:/etc:/usr/local/etc:/usr/bin/X11:/opt/bin:/usr/X11R6/bin:/usr/pkg/smlnj/bin:/usr/pkg/syn/bin:/usr/pkg/vcs/bin:/usr/lib/jvm/java-1.8.0-openjdk-1.8.0.292.b10-1.el7\_9.x86\_64/bin:., more '

next string is '-V,'

new string is '/bin:/usr/bin:/sbin:/usr/sbin:/usr/local/bin:/etc:/usr/local/etc:/usr/bin/X11:/opt/bin:/usr/X11R6/bin:/usr/pkg/smlnj/bin:/usr/pkg/syn/bin:/usr/pkg/vcs/bin:/usr/lib/jvm/java-1.8.0-openjdk-1.8.0.292.b10-1.el7\_9.x86\_64/bin:., more -V, '

next string is 'sh'

new string is '/bin:/usr/bin:/sbin:/usr/sbin:/usr/local/bin:/etc:/usr/local/etc:/usr/bin/X11:/opt/bin:/usr/X11R6/bin:/usr/pkg/smlnj/bin:/usr/pkg/syn/bin:/usr/pkg/vcs/bin:/usr/lib/jvm/java-1.8.0-openjdk-1.8.0.292.b10-1.el7\_9.x86\_64/bin:., more -V, sh '

CMD 'more -V' is one of the predefined.

more from util-linux 2.23.2

sh: /bin:/usr/bin:/sbin:/usr/sbin:/usr/local/bin:/etc:/usr/local/etc:/usr/bin/X11:/opt/bin:/usr/X11R6/bin:/usr/pkg/smlnj/bin:/usr/pkg/syn/bin:/usr/pkg/vcs/bin:/usr/lib/jvm/java-1.8.0-openjdk-1.8.0.292.b10-1.el7\_9.x86\_64/bin:.: No such file or directory

more from util-linux 2.23.2

[?1034hsh-4.2$ exity[K

exit

[palacim@sp2:22]> sxit

sxit: Command not found.

[palacim@sp2:23]> exit

exit

Script done on Tue 04 May 2021 11:06:34 PM PDT

Test #4

Script started on Tue 04 May 2021 11:09:52 PM PDT

[palacim@sp2:21]> ./cli touch example.txt, mv example.txt file2.txt, ls

CLI, Mario Palacios, CSC 139 - Section 06

Legal Commands: cd exec exit gcc ls man more mv rm pwd sh touch which $PATH

7 strings passed to argv[]

next string is 'touch'

new string is 'touch '

next string is 'example.txt,'

new string is 'touch example.txt, '

next string is 'mv'

new string is 'touch example.txt, mv '

next string is 'example.txt'

new string is 'touch example.txt, mv example.txt '

next string is 'file2.txt,'

new string is 'touch example.txt, mv example.txt file2.txt, '

next string is 'ls'

new string is 'touch example.txt, mv example.txt file2.txt, ls '

CMD 'mv example.txt file2.txt' is one of the predefined.

mv: cannot stat ‚Äòexample.txt‚Äô: No such file or directory

a.out cli cli.c file2.txt filler.txt test1.txt test2.txt test3.txt test4.txt

[palacim@sp2:22]> exit

exit

Script done on Tue 04 May 2021 11:10:19 PM PDT