**Terminal Log:**

feiyan@Feiyans-Air desktop % gcc tryShell.c -o tryShell

**tryShell.c:23:14: warning: expression which evaluates to zero treated as a null pointer**

**constant of type 'char \*' [-Wnon-literal-null-conversion]**

\*argv = '\0'; /\* mark the end of argument list \*/

**^~~~**

**tryShell.c:48:1: warning: return type of 'main' is not 'int' [-Wmain-return-type]**

void main(void)

**^**

**tryShell.c:48:1: note:** change return type to 'int'

void main(void)

**^~~~**

int

2 warnings generated.

feiyan@Feiyans-Air desktop % ./tryShell

Shell -> ls

2048 game.sketch Team Feasibility Presentation.pptx

CPT-Authorization-Steps-Aug-2020.pdf Top Secret Shit.dmg

Group 3.001 Team Feasibilty Report.docx tryShell

HW3-F20.doc tryShell.c

Relocated Items ~$4361 - Project Proposal.docx

Resume.pdf

Shell -> ls -I tryShell\*

ls: illegal option -- I

usage: ls [-@ABCFGHLOPRSTUWabcdefghiklmnopqrstuwx1%] [file ...]

Shell -> ls -l tryShell\*

ls: tryShell\*: No such file or directory

Shell -> ls -l /Users/feiyan/Desktop/tryShell\*

ls: /Users/feiyan/Desktop/tryShell\*: No such file or directory

Shell -> date

Wed Oct 14 20:20:10 CDT 2020

Shell -> whoami

feiyan

Shell -> hostname

Feiyans-Air.attlocal.net

Shell -> uname -a

Darwin Feiyans-Air.attlocal.net 19.6.0 Darwin Kernel Version 19.6.0: Thu Jun 18 20:49:00 PDT 2020; root:xnu-6153.141.1~1/RELEASE\_X86\_64 x86\_64

Shell -> ^C

feiyan@Feiyans-Air desktop % time -p ./tryShell

zsh: command not found: -p

-p ./tryShell 0.00s user 0.00s system 68% cpu 0.003 total

feiyan@Feiyans-Air desktop % ./tryShell

Shell -> exit

feiyan@Feiyans-Air desktop %

**Program Listing:**

/\*

source: www.csl.mtu.edu/cs4411.ck/www/NOTES/process/fork/exec.html

\*/

#include <stdio.h>

#include <sys/types.h>

#include <stdlib.h>

#include <string.h>

#include <unistd.h>

#define MAX 1024

void parse(char \*line, char \*\*argv)

{

while (\*line != '\0') { /\* if not the end of line \*/

while (\*line == ' ' || \*line == '\t' || \*line == '\n')

\*line++ = '\0'; /\* replace white spaces with 0\*/

\*argv++ = line; /\* save the argument position \*/

while (\*line != '\0' && \*line != ' ' &&

\*line != '\t' && \*line != '\n')

line++; /\* skip the argument until ... \*/

}

\*argv = '\0'; /\* mark the end of argument list \*/

}

void execute(char \*\*argv)

{

pid\_t pid;

int status;

if ((pid = fork()) < 0) { /\* fork a child process \*/

printf("\*\*\* ERROR: forking child process failed\n");

exit(1);

}

else if (pid == 0) { /\* for the child process: \*/

if (execvp(\*argv, argv) < 0) { /\* exec command \*/

printf("\*\*\* ERROR: exec failed\n");

exit(1);

}

}

else { /\* for the parent: \*/

while (wait(&status) != pid) /\* wait for completion \*/

;

}

}

void main(void)

{

char line[MAX]; /\* the input line \*/

char \*argv[64]; /\* the command line argument \*/

while (1) { /\* repeat until done .... \*/

printf("Shell -> "); /\* display a prompt \*/

if (fgets(line, MAX, stdin) != 0){

line[strcspn(line, "\n")] = '\0';

printf("\n");

// Place your code here to check the command is "exit"

// to terminate the shell.

if (strcmp(line, "exit") == 0) {

exit(1);

}

parse(line, argv); /\* parse the line \*/

execute(argv); /\* otherwise, execute cmd \*/

}

}

}