

Lab 6 v1

main.c

```
// example that makes use of command-line arguments
#include <stdio.h>
int main(int argc, char **argv)
{
    printf("argc = %d\n", argc);
    return 0;
}
```

default
"abc"
"def zxy"
different length
char *argv[]
the command itself

```
"main.c" 12L, 155C written
pod1-1 22 % gcc main.c
pod1-1 23 % ./a.out
argc = 1
pod1-1 24 % ./a.out aaa
argc = 2
pod1-1 25 % ./a.out aaa dddddddd
argc = 3
pod1-1 26 % ./a.out aaa dddddddd 1111
argc = 4
pod1-1 27 %
```

main1.c

```
pod1-Linuxpodman-001 - Secure Shell  
File Edit View Options Transfer Scripts Tools Windows Help  
pod1-Linuxpodman-001  
// example that makes use of command-line arguments  
#include <stdio.h>  
  
int main(int argc, char **argv)  
{  
    int i;  
  
    printf("argc = %d\n", argc);  
  
    for (i=0; i<argc; i++) {  
        printf("argv[%d] = %s\n", i, argv[i]);  
    }  
  
    return 0;  
}
```

```
~  
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pod1-1 29 % gcc main1.c  
pod1-1 30 % ./a.out  
argc = 1  
argv[0] = ./a.out  
pod1-1 31 % ./a.out bb  
argc = 2  
argv[0] = ./a.out  
argv[1] = bb  
pod1-1 32 % ./a.out bb 1234  
argc = 3  
argv[0] = ./a.out  
argv[1] = bb  
argv[2] = 1234  
pod1-1 33 %
```

```
pod1-Linuxpodman@pod1:~$ cat main2.c
// example that makes use of command-line arguments
#include <stdio.h>
#include <unistd.h>

int main()
{
    int i;

    fprintf(stdout, "I'm a.out\n");
    fflush(stdout);

    exec1("/u/data/u3/park/pub/cs240/lab6/v1/myargprint", "/u/data/u3/park/pub/cs240/lab6/v1/myargprint", "
10", "20", "-a", "-b", NULL);

    return 0;
}
```

main2.c" 17L, 317C

main2.c

if success
exec1 destroy current binary code
replace with this binary

```
pod1-Linuxpodman@pod1:~$ ./myargprint 10 20 -a -b
argc = 5
argv[0] = ./myargprint
argv[1] = 10
argv[2] = 20
argv[3] = -a
argv[4] = -b
pod1-Linuxpodman@pod1:~$ ls -la
total 40
-rwxrwxr-x 1 park park 8752 Jul 24 10:29 a.out
-rwxr--r-- 1 park park 234 Jul 20 2016 main1.c
-rwxr--r-- 1 park park 317 Jul 20 09:45 main2.c
-rwxr--r-- 1 park park 219 Jul 24 2016 main3.c
-rwxr--r-- 1 park park 155 Jul 24 10:17 main.c
-rwxrwxr-x 1 park park 8608 Jul 24 10:25 myargprint
pod1-Linuxpodman@pod1:~$ ./a.out
I'm a.out
argc = 5
argv[0] = /u/data/u3/park/pub/cs240/lab6/v1/myargprint
argv[1] = 10
argv[2] = 20
argv[3] = -a
argv[4] = -b
pod1-Linuxpodman@pod1:~$
```

call myargprint 单独

call a.out,
in a.out call
execv(myargprint)


```
#include <stdio.h>

int main(int argc, char **argv, char **environ)
{
    int i;

    while (*environ != NULL) {
        printf("%s\n", *environ);
        environ++;
    }

    return 0;
}
```

main3.c

current directory

set path = (\$path)

```
pod1-i 54 % ./a.out
USER=park
LOGNAME=park
HOME=/homes/park
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games
MAIL=/var/mail/park
SHELL=/bin/tcsh
SSH_CLIENT=10.161.2.236 54912 22
SSH_CONNECTION=10.161.2.236 54912 128.10.25.201 22
SSH_TTY=/dev/pts/2
TERM=vt100
XDG_SESSION_ID=6518
XDG_RUNTIME_DIR=/run/user/122
LANG=en_US.UTF-8
HOSTTYPE=x86_64-linux
VENDOR=unknown
OSTYPE=linux
MACHINE=x86_64
SHLVL=1
PWD=/homes/park/pub/cs240/lab6/v1
GROUP=park
HOST=pod1-1.cs.purdue.edu
REMOTEHOST=14081wsnb155p1.itap.purdue.edu
PRINTER=degas
PAGER=more
EDITOR=vi
pod1-i 55 %
```

int execl(const char *filename,
char *
full path

execp → will find `PATH`,