

sys163006@embedded: ~

login as: sys163006

sys163006@220.149.236.2's password:

Access denied

sys163006@220.149.236.2's password:

Welcome to Ubuntu 16.04.4 LTS (GNU/Linux 4.13.0-36-generic x86_64)

* Documentation: <https://help.ubuntu.com>

* Management: <https://landscape.canonical.com>

* Support: <https://ubuntu.com/advantage>

200 packages can be updated.

0 updates are security updates.

New release '18.04.2 LTS' available.

Run 'do-release-upgrade' to upgrade to it.

Last login: Sat Oct 5 22:33:36 2019 from 172.31.42.123

sys163006@embedded:~\$ ls

a.out examples.desktop my_favorite_poem.txt test.c

sys163006@embedded:~\$ rm a.out

sys163006@embedded:~\$ rm test.c

sys163006@embedded:~\$ la

.bash_history .bash_logout .bashrc .cache examples.desktop .local my_favorite_poem.txt .profile .viminfo

sys163006@embedded:~\$ ls

examples.desktop my_favorite_poem.txt

sys163006@embedded:~\$ more my_favorite_poem.txt

재

재로 걸러지는 것들에 아쉬워 마라

버려지는 것들에 아쉬워 마라

떠나가는 것들에 아쉬워 마라

인생에서 걸러지는 것들에 아쉬워 마라

남아있는 것들을 아쉬워 해라

놓을 것들을 놓을 줄 아는 자가

소중한 것들을 더 소중히 할 줄 안다

피꺼기를 아쉬워 마라

아쉬움을 아쉬워 마라

지은이 : 이 건 욱

sys163006@embedded:~\$ cat my_favorite_poem.txt

재

재로 걸러지는 것들에 아쉬워 마라

버려지는 것들에 아쉬워 마라

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피꺼기를 아쉬워 마라

아쉬움을 아쉬워 마라

지은이 : 이 건 욱

sys163006@embedded:~\$ whoami

sys163006

sys163006@embedded:~\$ date

2019. 10. 07. (월) 09:22:42 KST

sys163006@embedded:~\$ vi hello.c

```

sysl63006@embedded:~$ gcc hello.c
hello.c: In function 'main':
hello.c:3: warning: return type of 'main' is not 'int'
/tmp/cc0oT9ly.o: In function 'main':
hello.c:(.text+0x24): undefined reference to 'printf'
collect2: ld returned 1 exit status
sysl63006@embedded:~$ vi hello.c
sysl63006@embedded:~$ gcc hello.c
hello.c: In function 'main':
hello.c:3: warning: return type of 'main' is not 'int'
sysl63006@embedded:~$ vi hello.c
sysl63006@embedded:~$ gcc hello.c
sysl63006@embedded:~$ ./a.out
재미있 .....는 !!시스템프로그래밍 !!!
sysl63006@embedded:~$ ls -l
total 28
-rwxrwxr-x 1 sysl63006 sysl63006 4716 10월 7 09:24 a.out
-rw-r--r-- 1 sysl63006 sysl63006 8980 4월 20 2016 examples.desktop
-rw-rw-r-- 1 sysl63006 sysl63006 95 10월 7 09:24 hello.c
-rw-rw-r-- 1 sysl63006 sysl63006 404 10월 5 15:03 my_favorite_poem.txt
sysl63006@embedded:~$ mkdir test
sysl63006@embedded:~$ ls -l
total 32
-rwxrwxr-x 1 sysl63006 sysl63006 4716 10월 7 09:24 a.out
-rw-r--r-- 1 sysl63006 sysl63006 8980 4월 20 2016 examples.desktop
-rw-rw-r-- 1 sysl63006 sysl63006 95 10월 7 09:24 hello.c
-rw-rw-r-- 1 sysl63006 sysl63006 404 10월 5 15:03 my_favorite_poem.txt
drwxrwxr-x 2 sysl63006 sysl63006 4096 10월 7 09:24 test
sysl63006@embedded:~$ pwd
/home/2-class/sysl63006
sysl63006@embedded:~$ pwd test
/home/2-class/sysl63006
sysl63006@embedded:~$ rmdir test
sysl63006@embedded:~$ chmod g+x a.out
sysl63006@embedded:~$ ls -l
total 28
-rwxrwxr-x 1 sysl63006 sysl63006 4716 10월 7 09:24 a.out
-rw-r--r-- 1 sysl63006 sysl63006 8980 4월 20 2016 examples.desktop
-rw-rw-r-- 1 sysl63006 sysl63006 95 10월 7 09:24 hello.c
-rw-rw-r-- 1 sysl63006 sysl63006 404 10월 5 15:03 my_favorite_poem.txt
sysl63006@embedded:~$ chmod o+w hello.c
sysl63006@embedded:~$ ls -l
total 28
-rwxrwxr-x 1 sysl63006 sysl63006 4716 10월 7 09:24 a.out
-rw-r--r-- 1 sysl63006 sysl63006 8980 4월 20 2016 examples.desktop
-rw-rw-rw- 1 sysl63006 sysl63006 95 10월 7 09:24 hello.c
-rw-rw-r-- 1 sysl63006 sysl63006 404 10월 5 15:03 my_favorite_poem.txt
sysl63006@embedded:~$ vi test.c
sysl63006@embedded:~$ gcc -S test.c
sysl63006@embedded:~$ gcc -o test.out test.c
sysl63006@embedded:~$ ls
a.out examples.desktop hello.c my_favorite_poem.txt test.c test.out test.s
sysl63006@embedded:~$ ./test.out
5
7
5
7
Segmentation fault (core dumped)
sysl63006@embedded:~$ gcc -g -o test.out test.c
sysl63006@embedded:~$ ls
a.out examples.desktop hello.c my_favorite_poem.txt test.c test.out test.s
sysl63006@embedded:~$ as -o test.o test.s

```

```

sysl63006@embedded:~$ ls
a.out  examples.desktop  hello.c  my_favorite_poem.txt  test.c  test.o  test.out  test.s
sysl63006@embedded:~$ more test.s
.file "test.c"
.globl a
.data
.align 4
.type a, @object
.size a, 16
a:
.long 5
.long 6
.long 7
.long 8
.section .rodata
.LC0:
.string "%d\n"
.text
.globl main
.type main, @function
main:
pushl %ebp
movl %esp, %ebp
subl $8, %esp
andl $-16, %esp
movl $0, %eax
addl $15, %eax
addl $15, %eax
shrl $4, %eax
sall $4, %eax
subl %eax, %esp
movl a, %eax
movl %eax, 4(%esp)
movl $.LC0, (%esp)
call printf
movl a+8, %eax
movl %eax, 4(%esp)
movl $.LC0, (%esp)
call printf
movl a, %eax
movl %eax, 4(%esp)
movl $.LC0, (%esp)
call printf
movl a+8, %eax
movl %eax, 4(%esp)
movl $.LC0, (%esp)
call printf
movl pa, %eax
movl (%eax), %eax
movl %eax, 4(%esp)
movl $.LC0, (%esp)
call printf
movl pa, %eax
addl $8, %eax
movl (%eax), %eax
movl %eax, 4(%esp)
movl $.LC0, (%esp)
call printf
leave
ret
.size main, .-main
.comm pa,4,4

```



```

.section      .note.GNU-stack,"",@progbits
.ident "GCC: (GNU) 3.4.6 (Debian 3.4.6-5)"
sysl63006@embedded:~$ more test.o

***** test.o: Not a text file *****

sysl63006@embedded:~$ hexdump test.o
00000000 457f 464c 0101 0001 0000 0000 0000 0000
00000010 0001 0003 0001 0000 0000 0000 0000 0000
00000020 02cc 0000 0000 0000 0034 0000 0000 0028
00000030 000b 0008 8955 83e5 08ec e483 b8f0 0000
00000040 0000 c083 830f 0fc0 e8c1 c104 04e0 c429
00000050 00a1 0000 8900 2444 c704 2404 0000 0000
00000060 fce8 ffff alff 0008 0000 4489 0424 04c7
00000070 0024 0000 e800 fffc ffff 00a1 0000 8900
00000080 2444 c704 2404 0000 0000 fce8 ffff alff
00000090 0008 0000 4489 0424 04c7 0024 0000 e800
000000a0 fffc ffff 00a1 0000 8b00 8900 2444 c704
000000b0 2404 0000 0000 fce8 ffff alff 0000 0000
000000c0 c083 8b08 8900 2444 c704 2404 0000 0000
000000d0 fce8 ffff c9ff 00c3 0005 0000 0006 0000
000000e0 0007 0000 0008 0000 6425 000a 4700 4343
000000f0 203a 4728 554e 2029 2e33 2e34 2036 4428
00001000 6265 6169 206e 2e33 2e34 2d36 2935 0000
00001100 0000 0000 0000 0000 0000 0000 0000 0000
00001200 0001 0000 0000 0000 0000 0000 0004 fff1
00001300 0000 0000 0000 0000 0000 0000 0003 0001
00001400 0000 0000 0000 0000 0000 0000 0003 0003
00001500 0000 0000 0000 0000 0000 0000 0003 0004
00001600 0000 0000 0000 0000 0000 0000 0003 0005
00001700 0000 0000 0000 0000 0000 0000 0003 0006
00001800 0000 0000 0000 0000 0000 0000 0003 0007
00001900 0015 0000 0000 0000 0010 0000 0011 0003
00001a00 0008 0000 0000 0000 00a3 0000 0012 0001
00001b00 000d 0000 0000 0000 0000 0000 0010 0000
00001c00 0014 0000 0004 0000 0004 0000 0011 fff2
00001d00 7400 7365 2e74 0063 616d 6e69 7000 6972
00001e00 746e 0066 6170 0000 001d 0000 0801 0000
00001f00 0028 0000 0501 0000 002d 0000 0a02 0000
00002000 0032 0000 0801 0000 003d 0000 0501 0000
00002100 0042 0000 0a02 0000 0047 0000 0801 0000
00002200 0052 0000 0501 0000 0057 0000 0a02 0000
00002300 005c 0000 0801 0000 0067 0000 0501 0000
00002400 006c 0000 0a02 0000 0071 0000 0b01 0000
00002500 007e 0000 0501 0000 0083 0000 0a02 0000
00002600 0088 0000 0b01 0000 0098 0000 0501 0000
00002700 009d 0000 0a02 0000 2e00 7973 746d 6261
00002800 2e00 7473 7472 6261 2e00 6873 7473 7472
00002900 6261 2e00 6572 2e6c 6574 7478 2e00 6164
00002a00 6174 2e00 7362 0073 722e 646f 7461 0061
00002b00 6e2e 746f 2e65 4e47 2d55 7473 6361 006b
00002c00 632e 6d6f 656d 746e 0000 0000 0000 0000
00002d00 0000 0000 0000 0000 0000 0000 0000 0000
*
00002f00 0000 0000 001f 0000 0001 0000 0006 0000
00003000 0000 0000 0034 0000 00a3 0000 0000 0000
00003100 0000 0000 0001 0000 0000 0000 001b 0000
00003200 0009 0000 0040 0000 0000 0000 01e8 0000
00003300 0090 0000 0009 0000 0001 0000 0004 0000
00003400 0008 0000 0025 0000 0001 0000 0003 0000
00003500 0000 0000 00d8 0000 0010 0000 0000 0000
00003600 0000 0000 0004 0000 0000 0000 002b 0000

```



```

0000370 0008 0000 0003 0000 0000 0000 00e8 0000
0000380 0000 0000 0000 0000 0000 0000 0001 0000
0000390 0000 0000 0030 0000 0001 0000 0002 0000
00003a0 0000 0000 00e8 0000 0004 0000 0000 0000
00003b0 0000 0000 0001 0000 0000 0000 0038 0000
00003c0 0001 0000 0000 0000 0000 0000 00ec 0000
00003d0 0000 0000 0000 0000 0000 0000 0001 0000
00003e0 0000 0000 0048 0000 0001 0000 0030 0000
00003f0 0000 0000 00ec 0000 0023 0000 0000 0000
0000400 0000 0000 0001 0000 0001 0000 0011 0000
0000410 0003 0000 0000 0000 0000 0000 0278 0000
0000420 0051 0000 0000 0000 0000 0000 0001 0000
0000430 0000 0000 0001 0000 0002 0000 0000 0000
0000440 0000 0000 0110 0000 00c0 0000 000a 0000
0000450 0008 0000 0004 0000 0010 0000 0009 0000
0000460 0003 0000 0000 0000 0000 0000 01d0 0000
0000470 0017 0000 0000 0000 0000 0000 0001 0000
0000480 0000 0000
0000484

```

```

sys163006@embedded:~$ objdump test.o

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Usage: objdump <option(s)> <file(s)>

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```

Display information from object <file(s)>.

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At least one of the following switches must be given:

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```

-a, --archive-headers    Display archive header information
-f, --file-headers       Display the contents of the overall file header
-p, --private-headers    Display object format specific file header contents
-P, --private=OPT,OPT... Display object format specific contents
-h, --[section-]headers  Display the contents of the section headers
-x, --all-headers        Display the contents of all headers
-d, --disassemble        Display assembler contents of executable sections
-D, --disassemble-all   Display assembler contents of all sections
-S, --source             Intermix source code with disassembly
-s, --full-contents      Display the full contents of all sections requested
-g, --debugging          Display debug information in object file
-e, --debugging-tags     Display debug information using ctags style
-G, --stabs              Display (in raw form) any STABS info in the file
-W[llIaprmfFsoRt] or
--dwarf[=rawline,=decodedline,=info,=abbrev,=pubnames,=aranges,=macro,=frames,
=frames-interp,=str,=loc,=Ranges,=pubtypes,
=gdb_index,=trace_info,=trace_abbrev,=trace_aranges,
=addr,=cu_index]
Display DWARF info in the file
-t, --syms               Display the contents of the symbol table(s)
-T, --dynamic-syms       Display the contents of the dynamic symbol table
-r, --reloc              Display the relocation entries in the file
-R, --dynamic-reloc      Display the dynamic relocation entries in the file
@<file>                  Read options from <file>
-v, --version            Display this program's version number
-i, --info               List object formats and architectures supported
-H, --help               Display this information

```

```

sys163006@embedded:~$ gdb test.out

```

```

GNU gdb (Ubuntu 7.11.1-0ubuntu1~16.5) 7.11.1

```

```

Copyright (C) 2016 Free Software Foundation, Inc.

```

```

License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>

```

```

This is free software: you are free to change and redistribute it.

```

```

There is NO WARRANTY, to the extent permitted by law. Type "show copying"
and "show warranty" for details.

```

```

This GDB was configured as "x86_64-linux-gnu".

```

```

Type "show configuration" for configuration details.

```

```

For bug reporting instructions, please see:

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<http://www.gnu.org/software/gdb/bugs/>.

```

```

Find the GDB manual and other documentation resources online at:

```

```

<http://www.gnu.org/software/gdb/documentation/>.
For help, type "help".
Type "apropos word" to search for commands related to "word"...
Reading symbols from test.out...done.
(gdb) run
Starting program: /home/2-class/sys163006/test.out
5
7
5
7

Program received signal SIGSEGV, Segmentation fault.
0x080483f7 in main () at test.c:11
11         printf("%d\n", *pa);
(gdb) list
6         main(){
7             printf("%d\n", a[0]);
8             printf("%d\n", a[2]);
9             printf("%d\n", *a);
10            printf("%d\n", *(a+2));
11            printf("%d\n", *pa);
12            printf("%d\n", *(pa+2));
13        }
14
(gdb) break 10
Breakpoint 1 at 0x80483dd: file test.c, line 10.
(gdb) run
The program being debugged has been started already.
Start it from the beginning? (y or n) y
Starting program: /home/2-class/sys163006/test.out
5
7
5

Breakpoint 1, main () at test.c:10
10         printf("%d\n", *(a+2));
(gdb) y
Undefined command: "y". Try "help".
(gdb) n
7
11         printf("%d\n", *pa);
(gdb) n

Program received signal SIGSEGV, Segmentation fault.
0x080483f7 in main () at test.c:11
11         printf("%d\n", *pa);
(gdb) n

Program terminated with signal SIGSEGV, Segmentation fault.
The program no longer exists.
(gdb) n
The program is not being run.
(gdb) quit
sys163006@embedded:~$ whoami
sys163006
sys163006@embedded:~$ date
2019. 10. 07. (㉮) 09:35:39 KST
sys163006@embedded:~$ ls -l
total 48
-rwxrwxr-x 1 sys163006 sys163006 4716 10㉮ 7 09:24 a.out
-rw-r--r-- 1 sys163006 sys163006 8980 4㉮ 20 2016 examples.desktop
-rw-rw-rw- 1 sys163006 sys163006 95 10㉮ 7 09:24 hello.c

```

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-rw-rw-r-- 1 sys163006 sys163006 404 10월 5 15:03 my_favorite_poem.txt
-rw-rw-r-- 1 sys163006 sys163006 206 10월 7 09:29 test.c
-rw-rw-r-- 1 sys163006 sys163006 1156 10월 7 09:31 test.o
-rwxrwxr-x 1 sys163006 sys163006 5980 10월 7 09:30 test.out
-rw-rw-r-- 1 sys163006 sys163006 945 10월 7 09:29 test.s
sys163006@embedded:~$ rm a.out
sys163006@embedded:~$ rm hello.c
sys163006@embedded:~$ man vi
sys163006@embedded:~$ man gdb
sys163006@embedded:~$ pwd
/home/2-class/sys163006
sys163006@embedded:~$ ls
examples.desktop my_favorite_poem.txt test.c test.o test.out test.s
sys163006@embedded:~$ rm test.c
sys163006@embedded:~$ rm test.o
sys163006@embedded:~$ rm test.s
sys163006@embedded:~$ rm test.out
sys163006@embedded:~$ ls
examples.desktop my_favorite_poem.txt
sys163006@embedded:~$ whoami
sys163006
sys163006@embedded:~$ date
2019. 10. 07. (월) 09:37:45 KST
sys163006@embedded:~$ sys163006@embedded:~$ as -o test.o test.s
sys163006@embedded:~$: command not found
sys163006@embedded:~$
```