Xilinx Zynq FPGA, TI DSP, MCU 기반의 프로그래밍 및 회로 설계 전문가 과정

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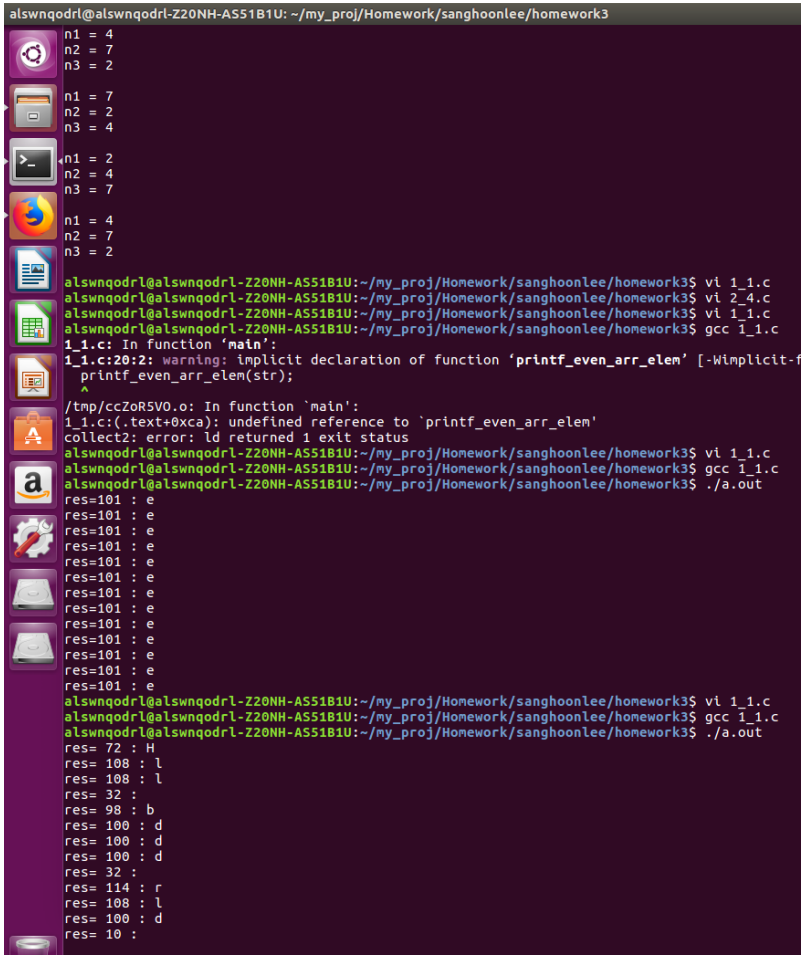
6, 7일차 내용 복습


alswnqodrl@alswnqodrl-Z20NH-AS51B1U: ~/my_proj/Homework/sanghoonlee/homework3
n1 = 4
n2 = 7
n3 = 2
n1 = 7
n2 = 2
n3 = 4
n1 = 2
n2 = 4
n3 = 7
n1 = 4
n2 = 7
n3 = 2
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_1.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 2_4.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_1.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_1.c
1_1.c: In function ‘main’:
1_1.c:20:2: warning: implicit declaration of function ‘printf_even_arr_elem’ [-Wimplicit-f
printf_even_arr_elem(str);
^
/tmp/ccZoR5VO.o: In function `main':
1_1.c:(.text+0xca): undefined reference to `printf_even_arr_elem'
collect2: error: ld returned 1 exit status
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_1.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_1.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ ./a.out
res=101 : e
res=101 : e
res=101 : e
res=101 : e
res=101 : e
res=101 : e
res=101 : e
res=101 : e
res=101 : e
res=101 : e
res=101 : e
res=101 : e
res=101 : e
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_1.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_1.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ ./a.out
res= 72 : H
res= 108 : l
res= 108 : l
res= 32 :
res= 98 : b
res= 100 : d
res= 100 : d
res= 100 : d
res= 32 :
res= 114 : r
res= 108 : l
res= 100 : d
res= 10 :

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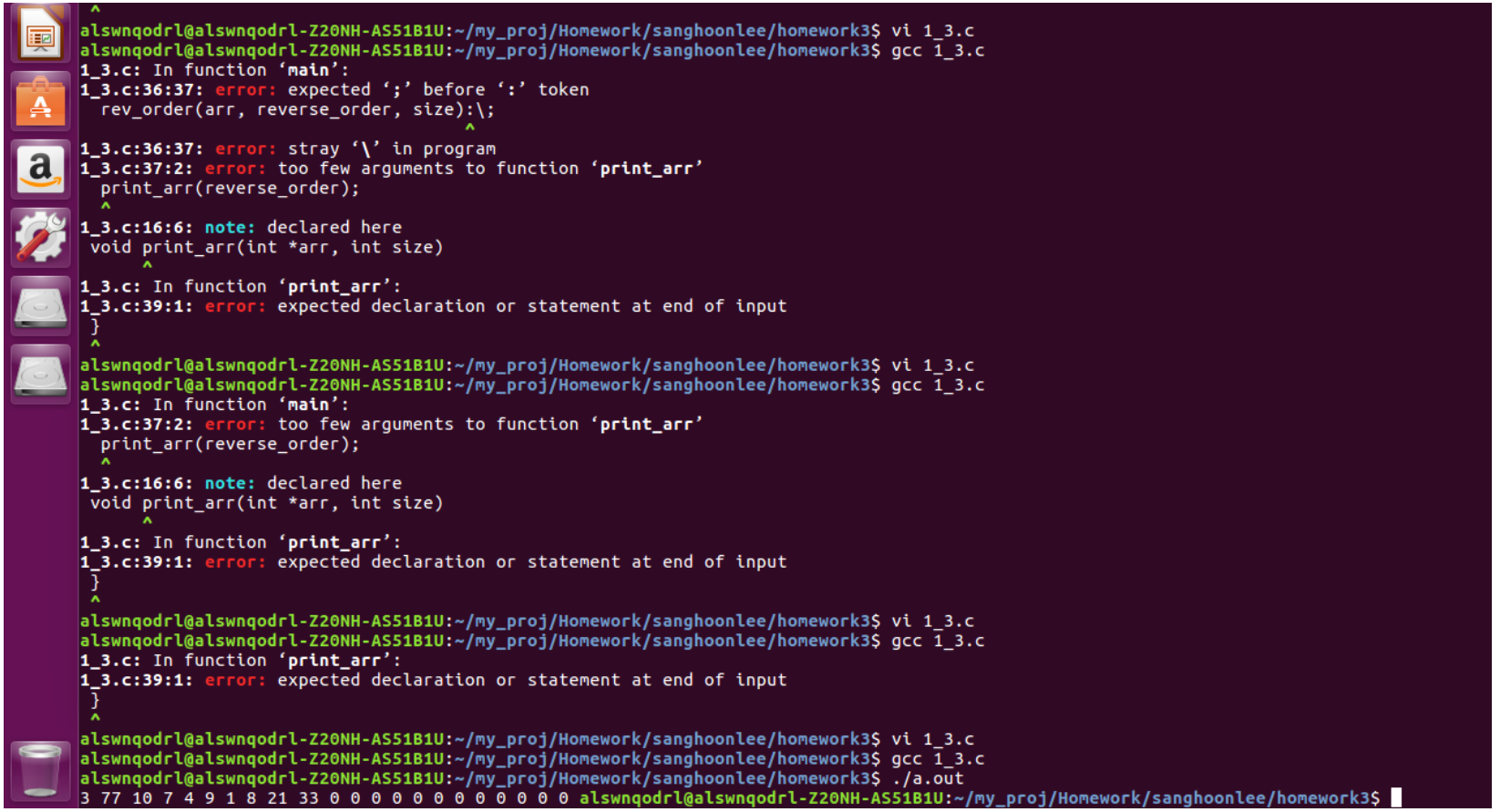
^
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_3.c
1_3.c: In function ‘main’:
1_3.c:36:37: error: expected ‘;’ before ‘:’ token
rev_order(arr, reverse_order, size):\;
^
1_3.c:36:37: error: stray ‘\’ in program
1_3.c:37:2: error: too few arguments to function ‘print_arr’
print_arr(reverse_order);
^
1_3.c:16:6: note: declared here
void print_arr(int *arr, int size)
^
1_3.c: In function ‘print_arr’:
1_3.c:39:1: error: expected declaration or statement at end of input
}
^
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_3.c
1_3.c: In function ‘main’:
1_3.c:37:2: error: too few arguments to function ‘print_arr’
print_arr(reverse_order);
^
1_3.c:16:6: note: declared here
void print_arr(int *arr, int size)
^
1_3.c: In function ‘print_arr’:
1_3.c:39:1: error: expected declaration or statement at end of input
}
^
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_3.c
1_3.c: In function ‘print_arr’:
1_3.c:39:1: error: expected declaration or statement at end of input
}
^
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ ./a.out
3 77 10 7 4 9 1 8 21 33 0 0 0 0 0 0 0 0 0 0 0 0 alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$

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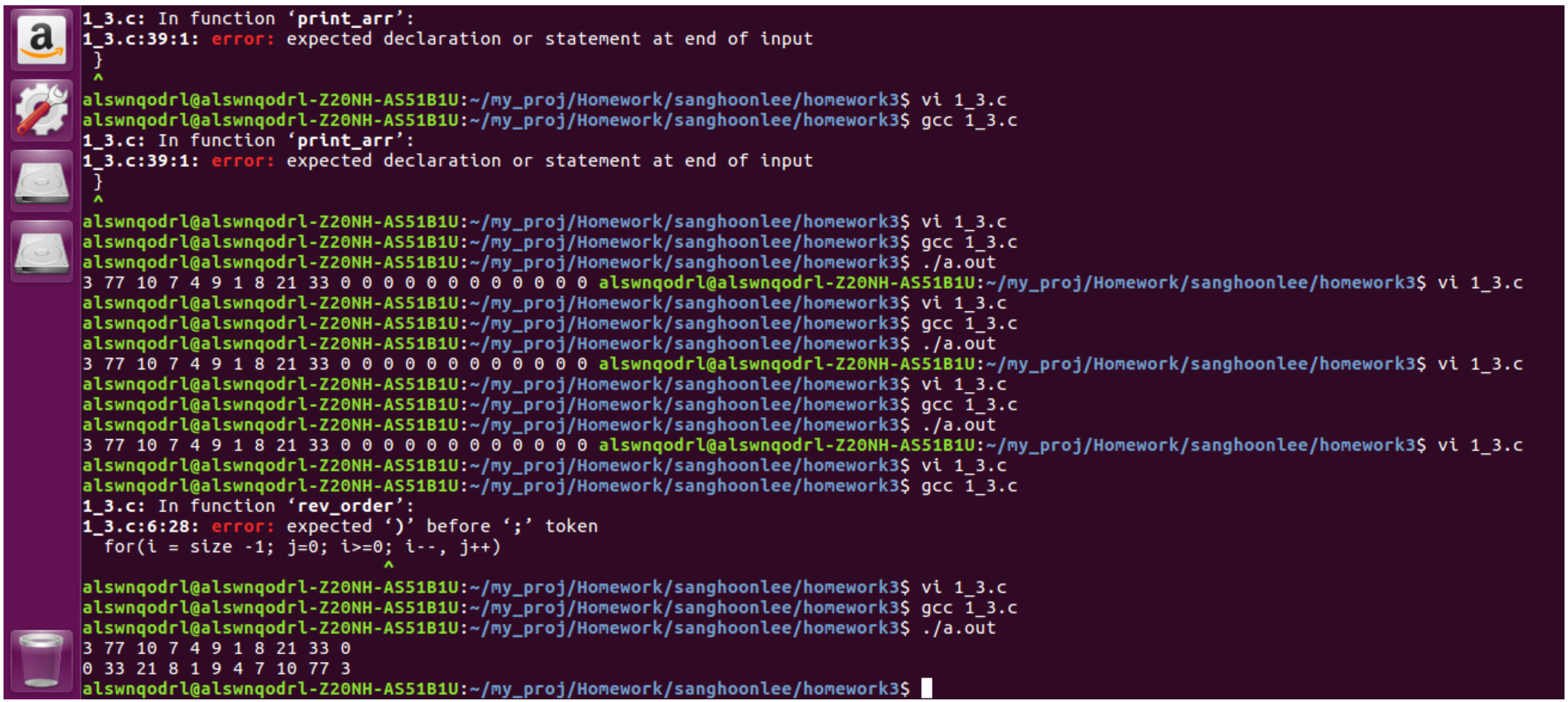
1_3.c: In function ‘print_arr’:
1_3.c:39:1: error: expected declaration or statement at end of input
}
^
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_3.c
1_3.c: In function ‘print_arr’:
1_3.c:39:1: error: expected declaration or statement at end of input
}
^
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ ./a.out
3 77 10 7 4 9 1 8 21 33 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ ./a.out
3 77 10 7 4 9 1 8 21 33 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ ./a.out
3 77 10 7 4 9 1 8 21 33 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_3.c
1_3.c: In function ‘rev_order’:
1_3.c:6:28: error: expected ‘)’ before ‘;’ token
for(i = size -1; j=0; i>=0; i--, j++)
^
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ ./a.out
3 77 10 7 4 9 1 8 21 33 0
0 33 21 8 1 9 4 7 10 77 3
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$

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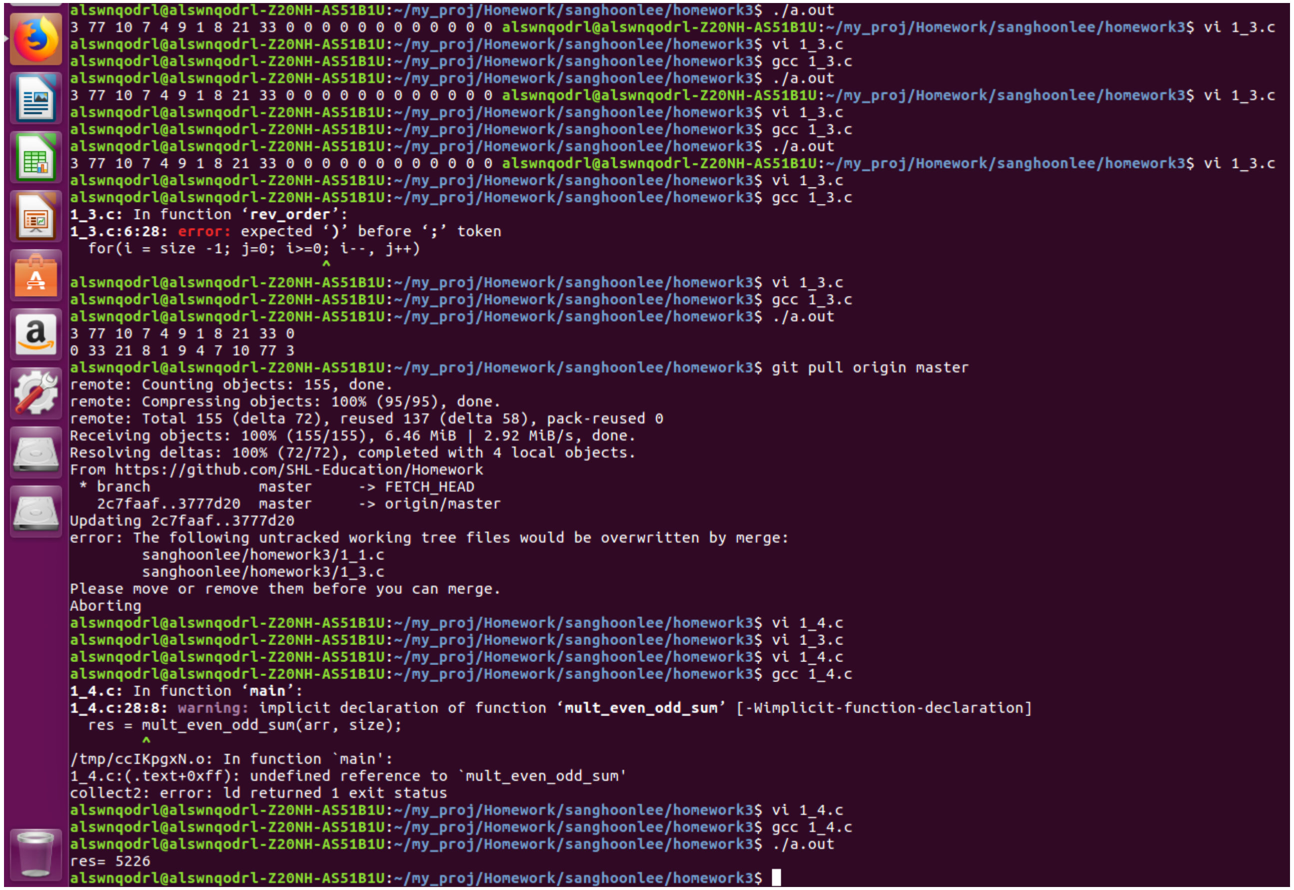
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ ./a.out
3 77 10 7 4 9 1 8 21 33 0 0 0 0 0 0 0 0 0 0 0 0 0 0 alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ ./a.out
3 77 10 7 4 9 1 8 21 33 0 0 0 0 0 0 0 0 0 0 0 0 0 0 alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ ./a.out
3 77 10 7 4 9 1 8 21 33 0 0 0 0 0 0 0 0 0 0 0 0 0 0 alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_3.c
1_3.c: In function 'rev_order':
1_3.c:6:28: error: expected ')' before ';' token
for(i = size -1; j=0; i>=0; i--, j++)
^
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ ./a.out
3 77 10 7 4 9 1 8 21 33 0
0 33 21 8 1 9 4 7 10 77 3
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ git pull origin master
remote: Counting objects: 155, done.
remote: Compressing objects: 100% (95/95), done.
remote: Total 155 (delta 72), reused 137 (delta 58), pack-reused 0
Receiving objects: 100% (155/155), 6.46 MiB | 2.92 MiB/s, done.
Resolving deltas: 100% (72/72), completed with 4 local objects.
From https://github.com/SHL-Education/Homework
* branch master -> FETCH_HEAD
2c7faaf..3777d20 master -> origin/master
Updating 2c7faaf..3777d20
error: The following untracked working tree files would be overwritten by merge:
sanghoonlee/homework3/1_1.c
sanghoonlee/homework3/1_3.c
Please move or remove them before you can merge.
Aborting
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_4.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_3.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_4.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_4.c
1_4.c: In function 'main':
1_4.c:28:8: warning: implicit declaration of function 'mult_even_odd_sum' [-Wimplicit-function-declaration]
res = mult_even_odd_sum(arr, size);
^
/tmp/ccIKpgxN.o: In function `main':
1_4.c:(.text+0xff): undefined reference to `mult_even_odd_sum'
collect2: error: ld returned 1 exit status
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ vi 1_4.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ gcc 1_4.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$ ./a.out
res= 5226
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/Homework/sanghoonlee/homework3$

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6, 7일차 내용 복습

alswnqodrl@alswnqodrl-Z20NH-AS51B1U: ~/my_proj/Homework/sanghoonlee/homework3

```c
#include <stdio.h>

int mult_even_odd_sum(int *arr, int size)
{
        int i, esum=0, osum=0;

        for(i = 0; i<size; i++)
        {
                if(i%2)
                {
                        osum +=arr[i];
                }
                else
                {
                        esum+=arr[i];
                }

        }
        return osum*esum;
}


int main(void)
{
        int arr[12] = {3, 77, 10, 7, 4, 9, 1, 8, 21, 33};
        int size = (sizeof(arr) / sizeof(int)) - 1;
        int res;
        res = mult_even_odd_sum(arr, size);
        printf("res= %d\n" ,res);
        return 0;
}
~
```

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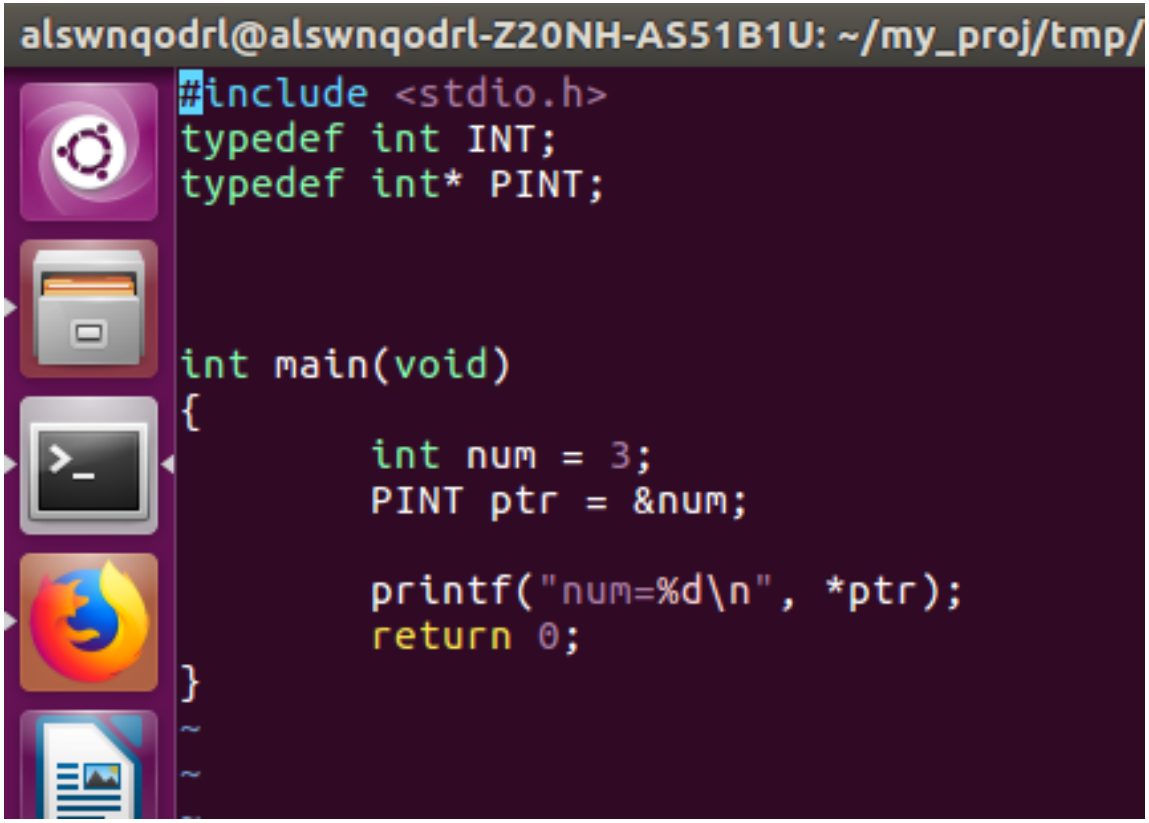
alswnqodrl@alswnqodrl-Z20NH-AS51B1U: ~/my_proj/tmp/
#include <stdio.h>
typedef int INT;
typedef int* PINT;
int main(void)
{
int num = 3;
PINT ptr = #
printf("num=%d\n", *ptr);
return 0;
}

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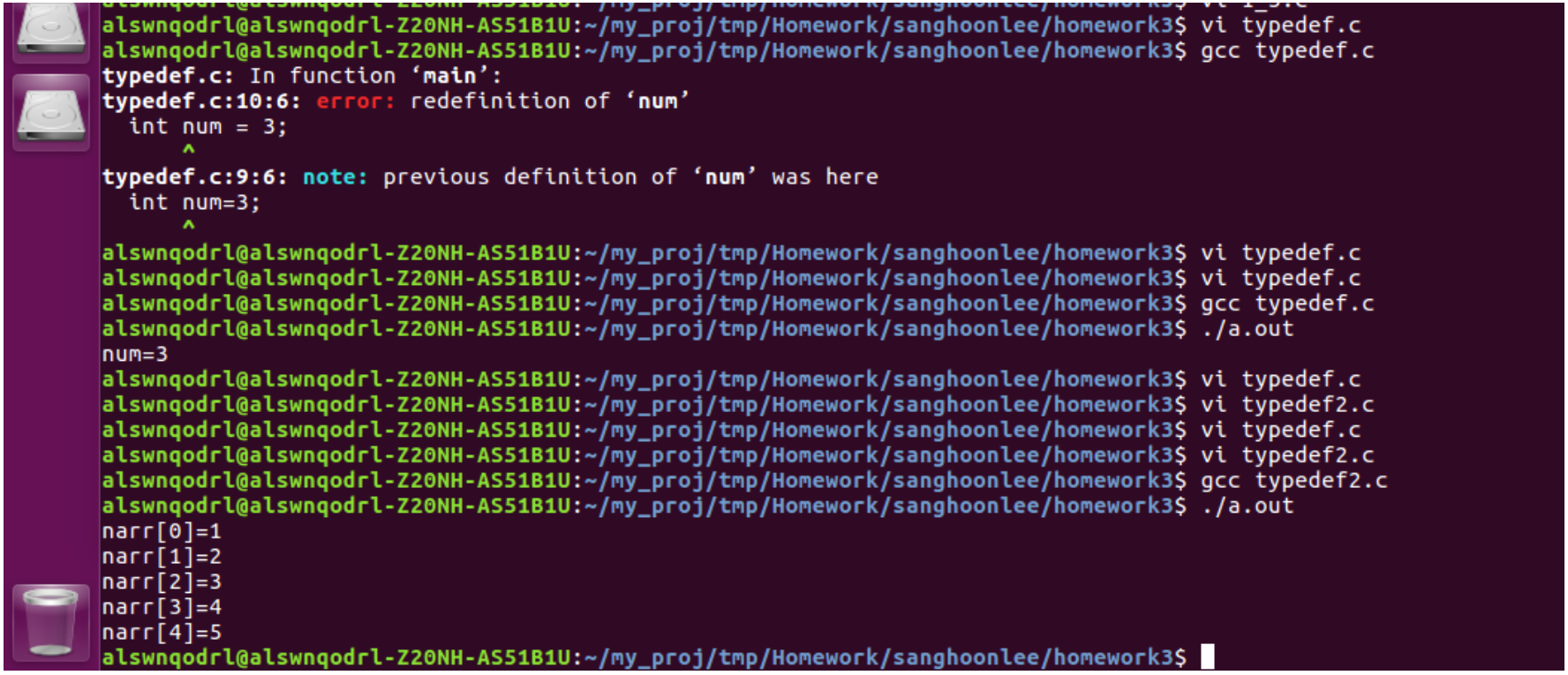
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc typedef.c
typedef.c: In function ‘main’:
typedef.c:10:6: error: redefinition of ‘num’
int num = 3;
^
typedef.c:9:6: note: previous definition of ‘num’ was here
int num=3;
^
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc typedef.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ ./a.out
num=3
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef2.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef2.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc typedef2.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ ./a.out
narr[0]=1
narr[1]=2
narr[2]=3
narr[3]=4
narr[4]=5
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$

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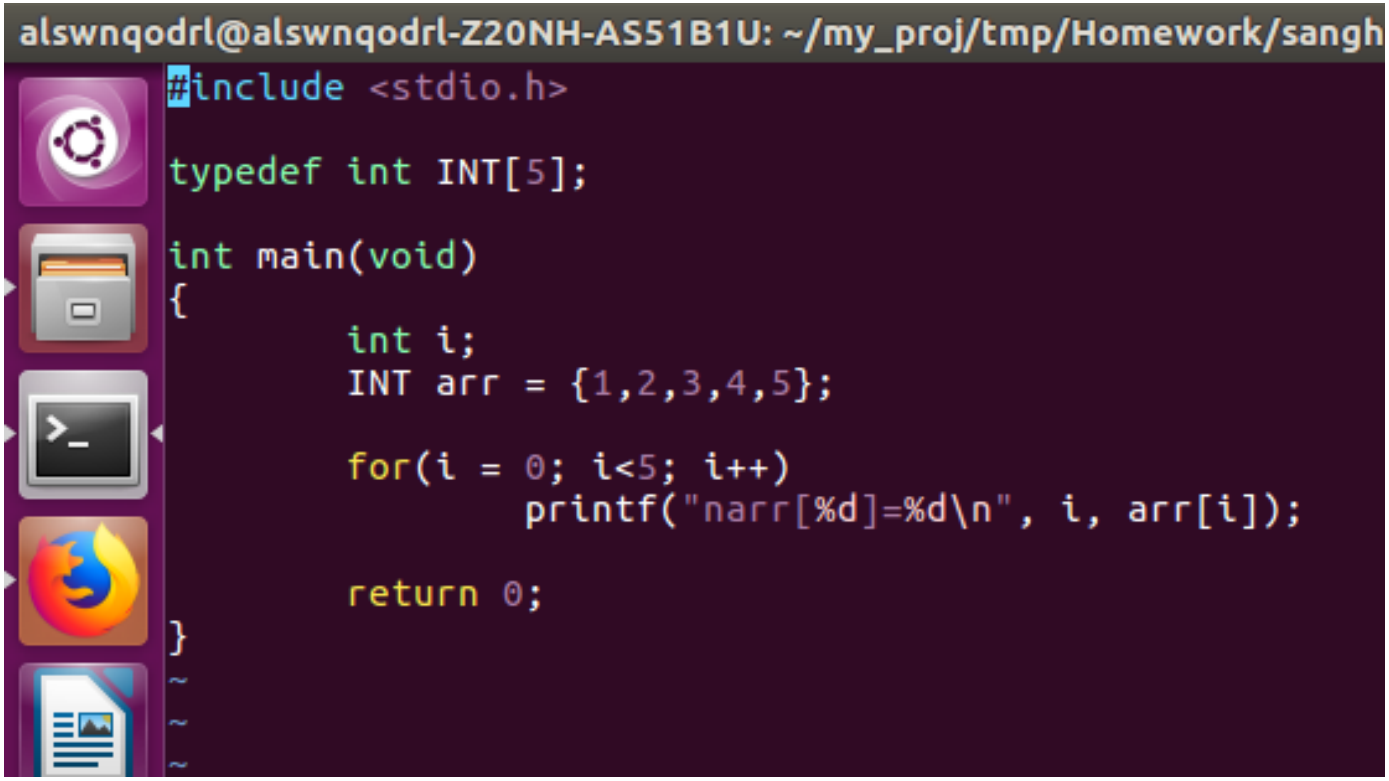
alswnqodrl@alswnqodrl-Z20NH-AS51B1U: ~/my_proj/tmp/Homework/sangh
#include <stdio.h>
typedef int INT[5];
int main(void)
{
int i;
INT arr = {1,2,3,4,5};
for(i = 0; i<5; i++)
printf("narr[%d]=%d\n", i, arr[i]);
return 0;
}

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```
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi malloc.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc malloc.c
malloc.c: In function ‘main’:
malloc.c:6:15: warning: initialization from incompatible pointer type [-Wincompatible-pointer-types]
  int *str_ptr=(char*)malloc(sizeof(char)*20);
               ^
malloc.c:9:8: warning: format ‘%s’ expects argument of type ‘char *’, but argument 2 has type ‘int *’ [-Wformat=]
  scanf("%s", str_ptr);
       ^
malloc.c:12:10: warning: format ‘%s’ expects argument of type ‘char *’, but argument 2 has type ‘int *’ [-Wformat=]
   printf("string = %s\n", str_ptr);
          ^
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi malloc.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ ./a.out
Input String:45
string = 45
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi malloc.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc malloc.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ ./a.out
Input String:50
string = 50
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$
```

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alswnqodrl@alswnqodrl-Z20NH-AS51B1U: ~/my_proj/tmp/Homework/sanghoo
#include <stdlib.h>
#include <stdio.h>
int main(void)
{
char *str_ptr=(char*)malloc(sizeof(char)*20);
printf("Input String:");
scanf("%s", str_ptr);
if(str_ptr !=NULL)
printf("string = %s\n", str_ptr);
free(str_ptr);
return 0;
}

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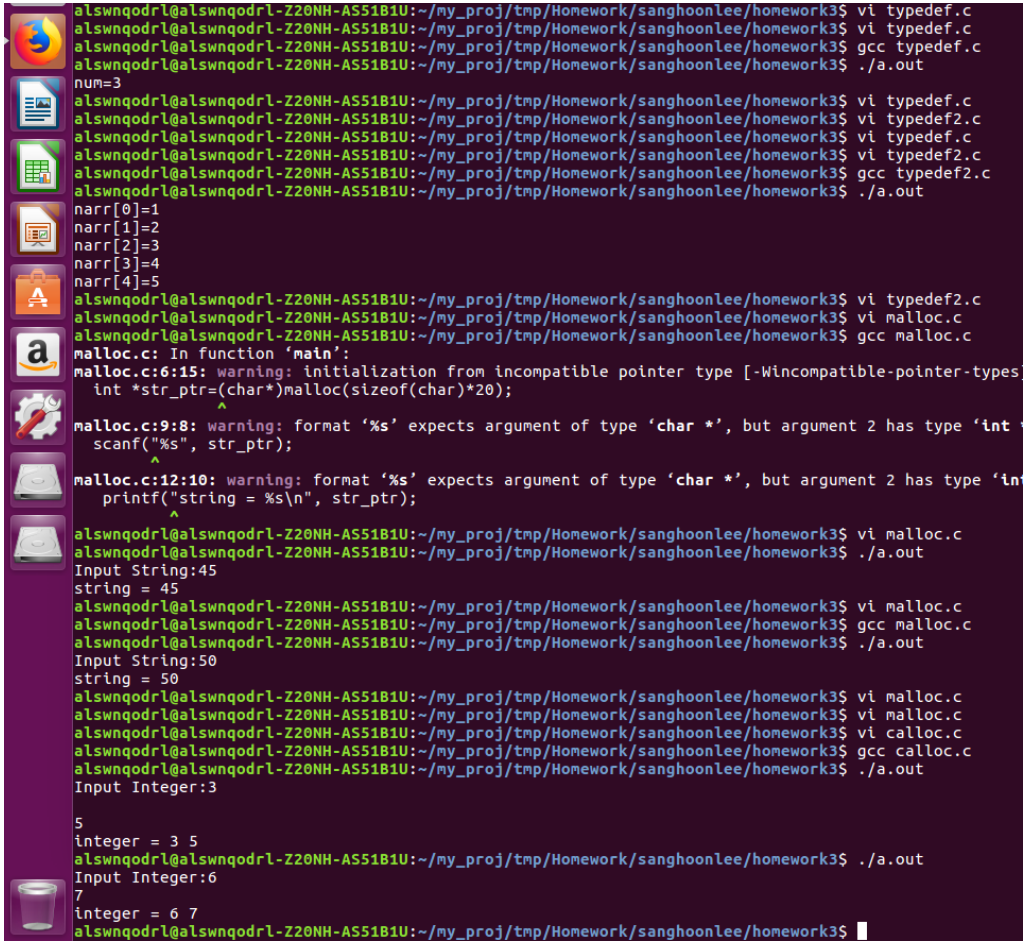
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc typedef.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ ./a.out
num=3
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef2.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef2.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc typedef2.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ ./a.out
narr[0]=1
narr[1]=2
narr[2]=3
narr[3]=4
narr[4]=5
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef2.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi malloc.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc malloc.c
malloc.c: In function ‘main’:
malloc.c:6:15: warning: initialization from incompatible pointer type [-Wincompatible-pointer-types]
int *str_ptr=(char*)malloc(sizeof(char)*20);
^
malloc.c:9:8: warning: format ‘%s’ expects argument of type ‘char *’, but argument 2 has type ‘int
scanf("%s", str_ptr);
^
malloc.c:12:10: warning: format ‘%s’ expects argument of type ‘char *’, but argument 2 has type ‘int
printf("string = %s\n", str_ptr);
^
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi malloc.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ ./a.out
Input String:45
string = 45
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi malloc.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc malloc.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ ./a.out
Input String:50
string = 50
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi malloc.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi malloc.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi calloc.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc calloc.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ ./a.out
Input Integer:3
5
integer = 3 5
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ ./a.out
Input Integer:6
7
integer = 6 7
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$

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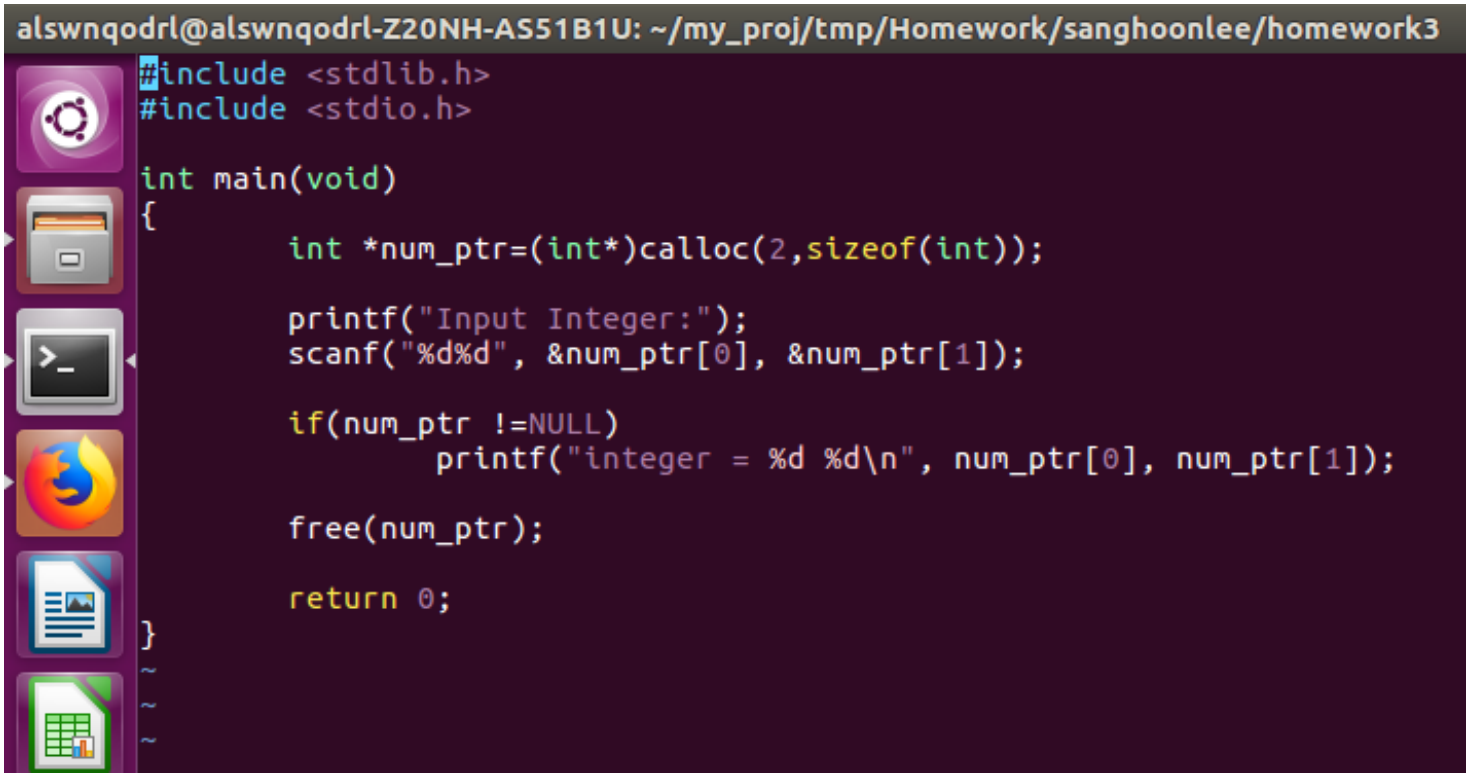
6, 7일차 내용 복습


alswnqodrl@alswnqodrl-Z20NH-AS51B1U: ~/my_proj/tmp/Homework/sanghoonlee/homework3
#include <stdlib.h>
#include <stdio.h>
int main(void)
{
int *num_ptr=(int*)calloc(2,sizeof(int));
printf("Input Integer:");
scanf("%d%d", &num_ptr[0], &num_ptr[1]);
if(num_ptr !=NULL)
printf("integer = %d %d\n", num_ptr[0], num_ptr[1]);
free(num_ptr);
return 0;
}

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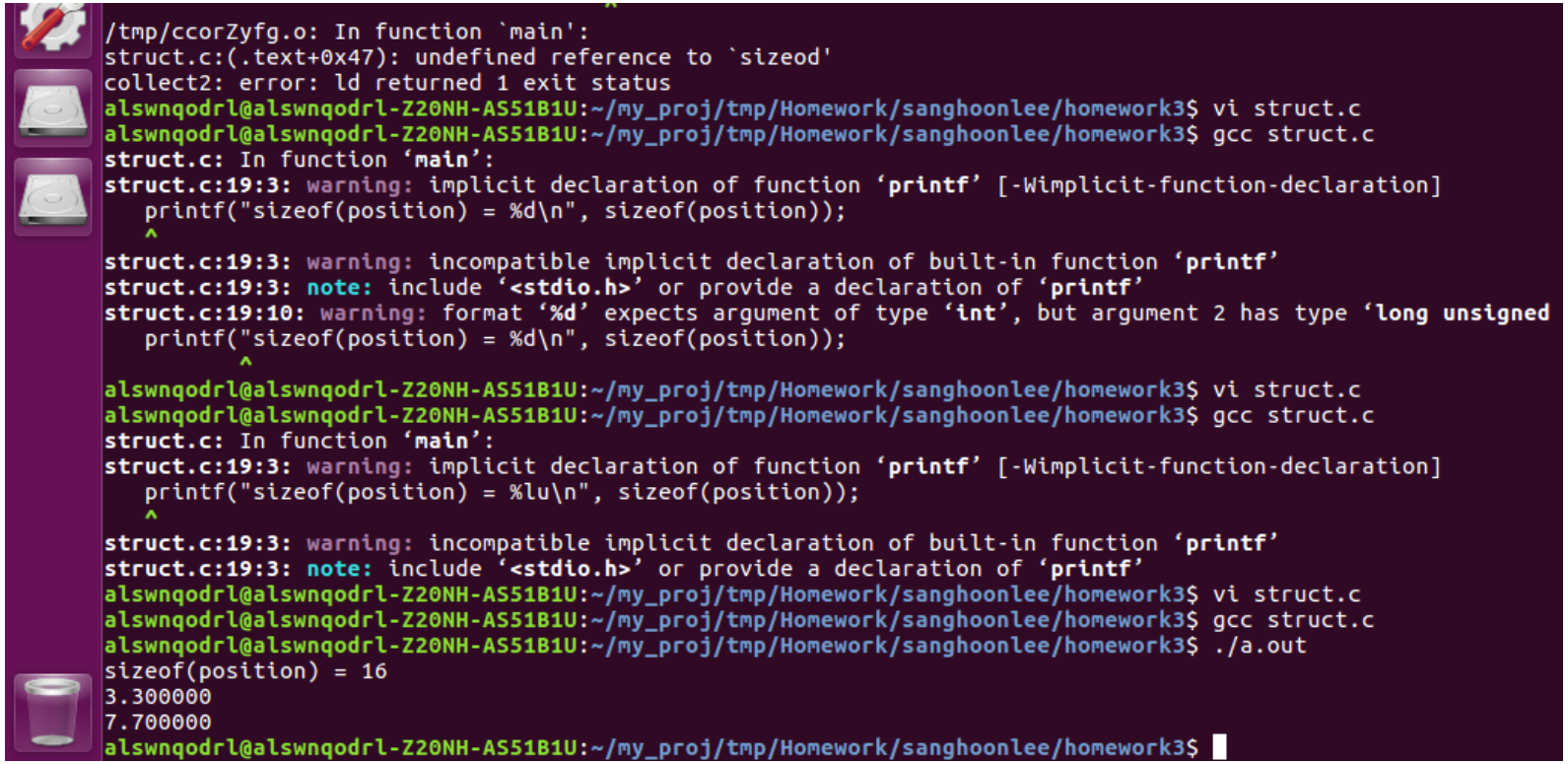
6, 7일차 내용 복습


/tmp/ccorZyfg.o: In function `main':
struct.c:(.text+0x47): undefined reference to `sizeod'
collect2: error: ld returned 1 exit status
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi struct.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc struct.c
struct.c: In function ‘main’:
struct.c:19:3: warning: implicit declaration of function ‘printf’ [-Wimplicit-function-declaration]
printf("sizeof(position) = %d\n", sizeof(position));
^
struct.c:19:3: warning: incompatible implicit declaration of built-in function ‘printf’
struct.c:19:3: note: include ‘<stdio.h>’ or provide a declaration of ‘printf’
struct.c:19:10: warning: format ‘%d’ expects argument of type ‘int’, but argument 2 has type ‘long unsigned
printf("sizeof(position) = %d\n", sizeof(position));
^
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi struct.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc struct.c
struct.c: In function ‘main’:
struct.c:19:3: warning: implicit declaration of function ‘printf’ [-Wimplicit-function-declaration]
printf("sizeof(position) = %lu\n", sizeof(position));
^
struct.c:19:3: warning: incompatible implicit declaration of built-in function ‘printf’
struct.c:19:3: note: include ‘<stdio.h>’ or provide a declaration of ‘printf’
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi struct.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc struct.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ ./a.out
sizeof(position) = 16
3.300000
7.700000
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$

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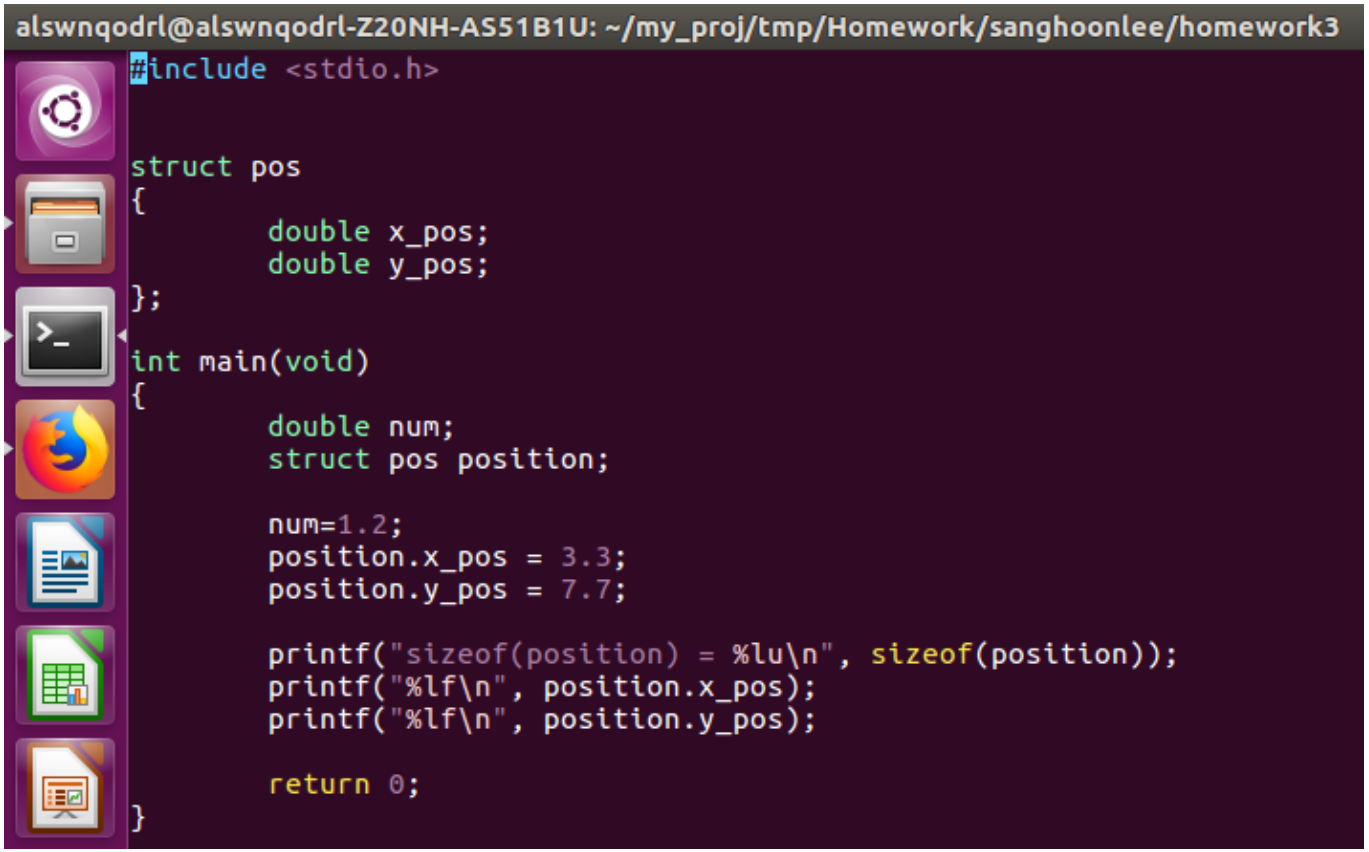
6, 7일차 내용 복습


alswnqodrl@alswnqodrl-Z20NH-AS51B1U: ~/my_proj/tmp/Homework/sanghoonlee/homework3
#include <stdio.h>
struct pos
{
double x_pos;
double y_pos;
};
int main(void)
{
double num;
struct pos position;
num=1.2;
position.x_pos = 3.3;
position.y_pos = 7.7;
printf("sizeof(position) = %lu\n", sizeof(position));
printf("%lf\n", position.x_pos);
printf("%lf\n", position.y_pos);
return 0;
}

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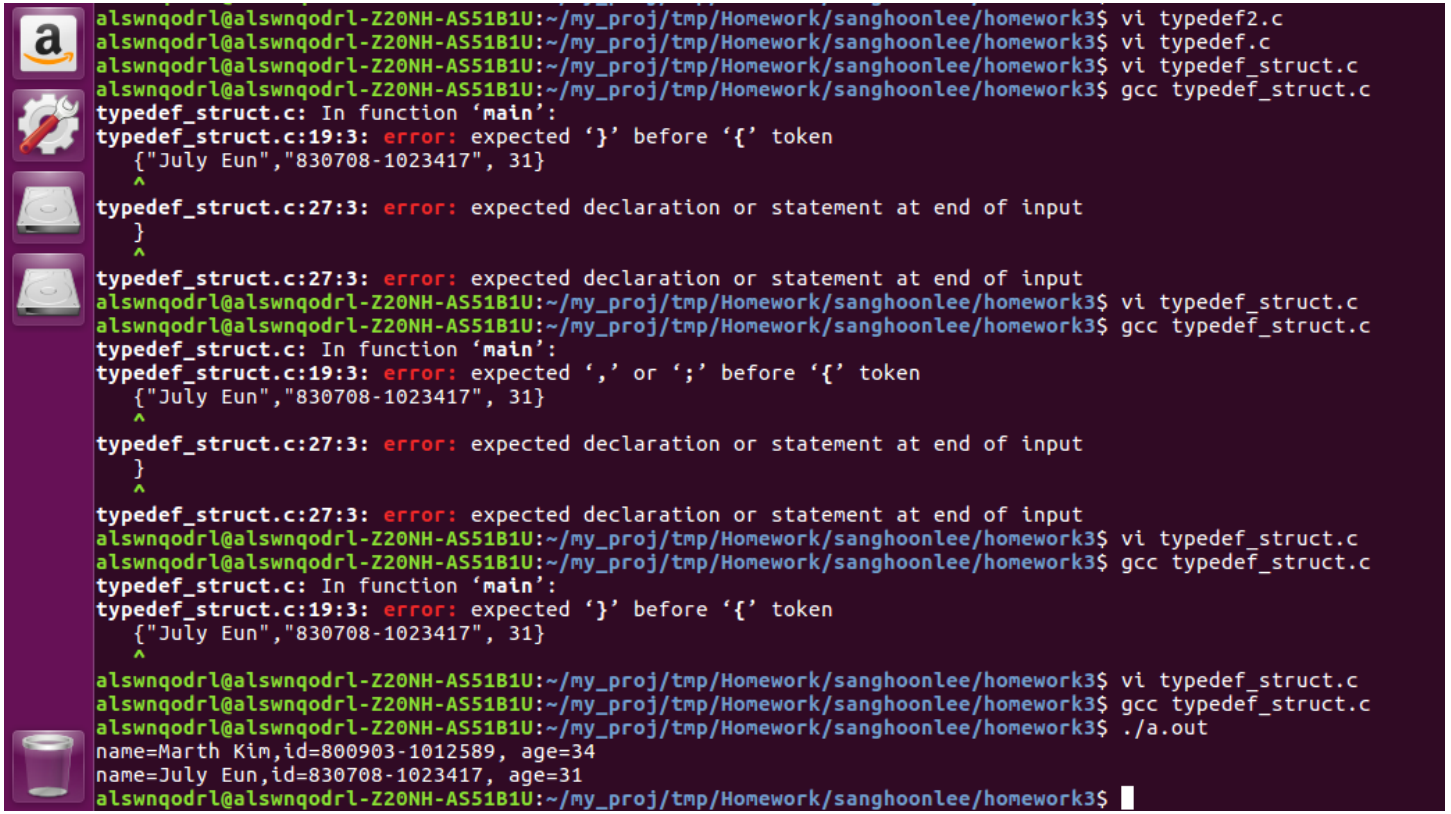
6, 7일차 내용 복습


alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef2.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef_struct.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc typedef_struct.c
typedef_struct.c: In function 'main':
typedef_struct.c:19:3: error: expected '}' before '{' token
{"July Eun","830708-1023417", 31}
^
typedef_struct.c:27:3: error: expected declaration or statement at end of input
}
^
typedef_struct.c:27:3: error: expected declaration or statement at end of input
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef_struct.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc typedef_struct.c
typedef_struct.c: In function 'main':
typedef_struct.c:19:3: error: expected ',' or ';' before '{' token
{"July Eun","830708-1023417", 31}
^
typedef_struct.c:27:3: error: expected declaration or statement at end of input
}
^
typedef_struct.c:27:3: error: expected declaration or statement at end of input
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef_struct.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc typedef_struct.c
typedef_struct.c: In function 'main':
typedef_struct.c:19:3: error: expected '}' before '{' token
{"July Eun","830708-1023417", 31}
^
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi typedef_struct.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc typedef_struct.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ ./a.out
name=Marth Kim,id=800903-1012589, age=34
name=July Eun,id=830708-1023417, age=31
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$

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6, 7일차 내용 복습

alswnqodrl@alswnqodrl-Z20NH-AS51B1U: ~/my_proj/tmp/Homework/sanghoonlee/homework3

```c
#include <stdio.h>
#define NAME_LEN 30
#define ID_LEN 15

typedef struct _id_card
{
        char name[NAME_LEN];
        char id[ID_LEN];
        unsigned int age;
}
id_card;


int main(void)
{
        int i;
        id_card arr[2] ={
                {"Marth Kim","800903-1012589", 34},
                {"July Eun","830708-1023417", 31}
        };
        for(i=0;i<2; i++)
        {
                printf("name=%s,id=%s, age=%d\n",
                        arr[i].name, arr[i].id, arr[i].age);
        }
        return 0;
```

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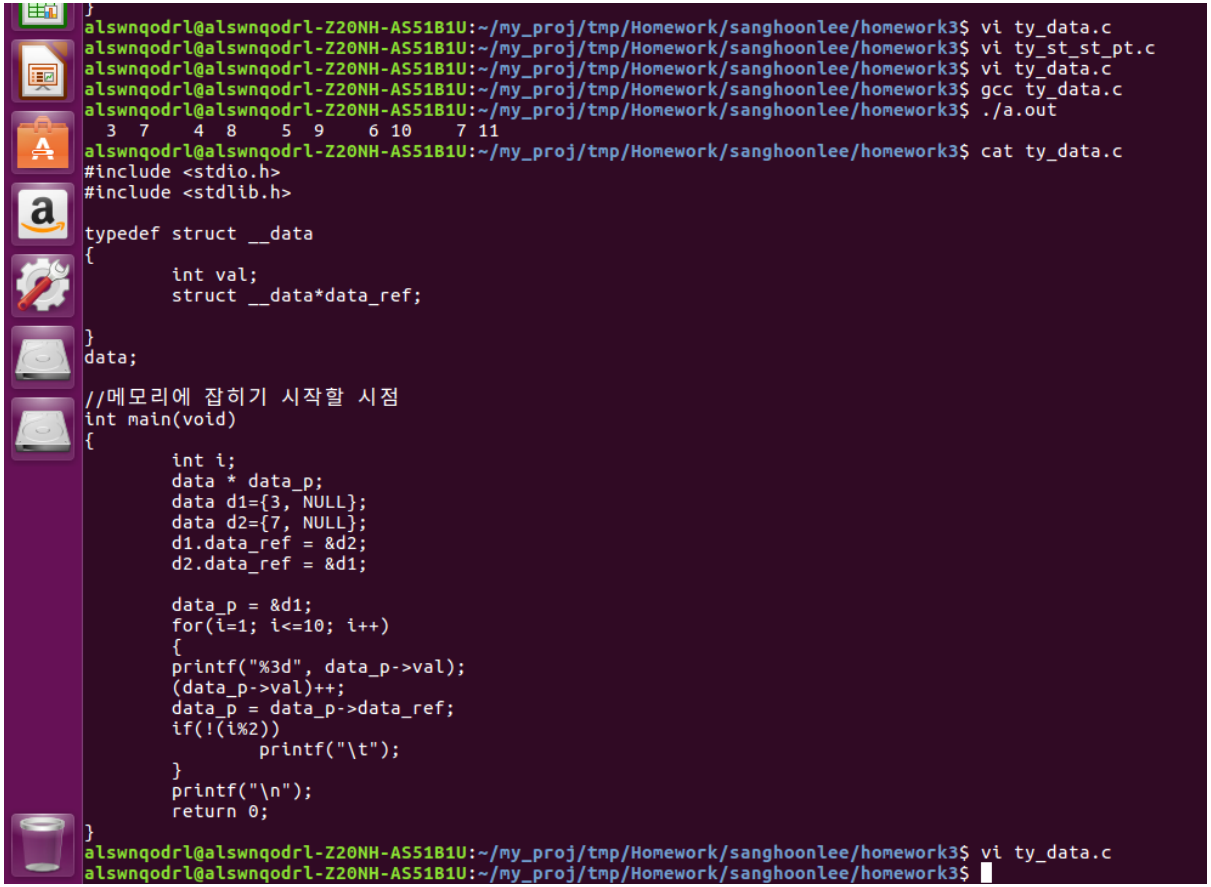
6, 7일차 내용 복습


}
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi ty_data.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi ty_st_st_pt.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi ty_data.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc ty_data.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ ./a.out
3 7 4 8 5 9 6 10 7 11
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ cat ty_data.c
#include <stdio.h>
#include <stdlib.h>
typedef struct __data
{
int val;
struct __data*data_ref;
}
data;
//메모리에 잡히기 시작할 시점
int main(void)
{
int i;
data * data_p;
data d1={3, NULL};
data d2={7, NULL};
d1.data_ref = &d2;
d2.data_ref = &d1;
data_p = &d1;
for(i=1; i<=10; i++)
{
printf("%3d", data_p->val);
(data_p->val)++;
data_p = data_p->data_ref;
if(!(i%2))
printf("\t");
}
printf("\n");
return 0;
}
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi ty_data.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$

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6, 7일차 내용 복습

alswnqodrl@alswnqodrl-Z20NH-AS51B1U: ~/my_proj/tmp/Homework/sanghoonlee/homework3

```
        char city[30];
}
city;


//메모리에 잡히기 시작할 시점
int main(void)
{
        int i;
        city info={NULL, "Seoul"};
        info.card = (id_card *)malloc(sizeof(id_card));
        info.card->name = "Marth Kim";
        info.card->id = "800903-1012589";
        info.card->age =34;
        printf("city = %s, name=%s, id=%s, age=%d\n",
                info.city, info.card->name, info.card->id, info.card->age);

        free(info.card);
        return 0;
}
```

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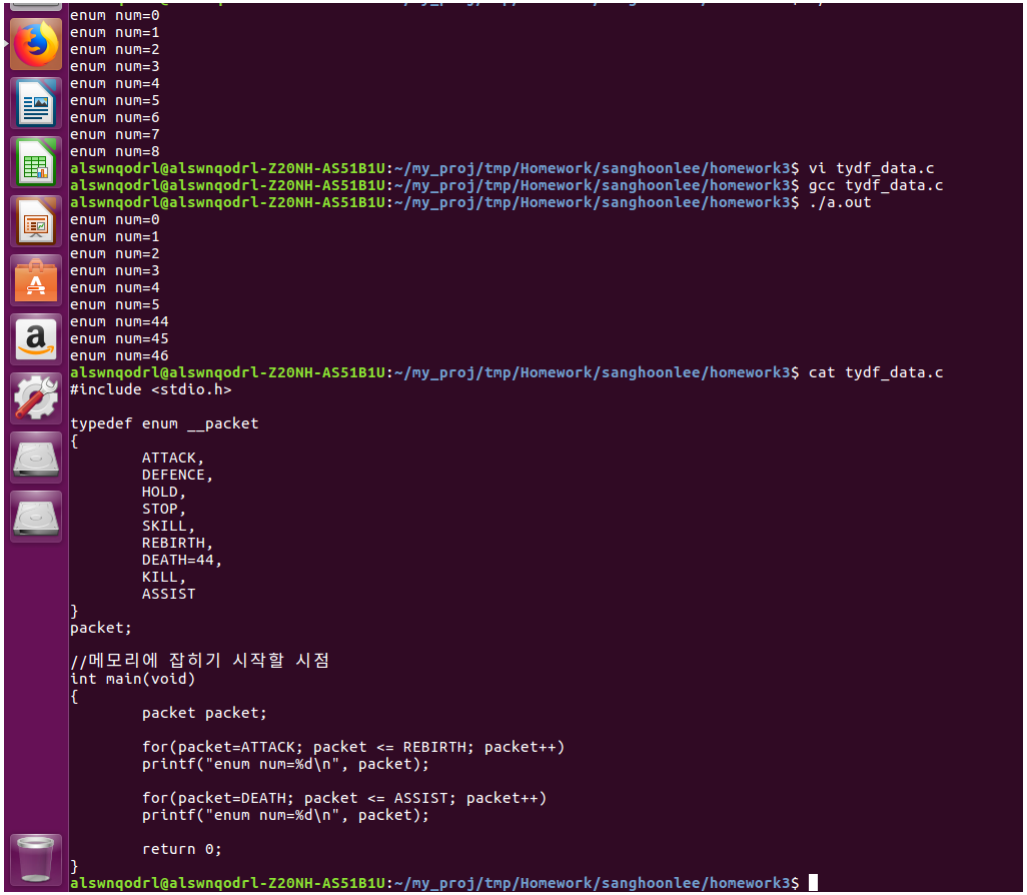
6, 7일차 내용 복습


enum num=0
enum num=1
enum num=2
enum num=3
enum num=4
enum num=5
enum num=6
enum num=7
enum num=8
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi tydf_data.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc tydf_data.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ ./a.out
enum num=0
enum num=1
enum num=2
enum num=3
enum num=4
enum num=5
enum num=44
enum num=45
enum num=46
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ cat tydf_data.c
#include <stdio.h>
typedef enum __packet
{
ATTACK,
DEFENCE,
HOLD,
STOP,
SKILL,
REBIRTH,
DEATH=44,
KILL,
ASSIST
}
packet;
//메모리에 잡히기 시작할 시점
int main(void)
{
packet packet;
for(packet=ATTACK; packet <= REBIRTH; packet++)
printf("enum num=%d\n", packet);
for(packet=DEATH; packet <= ASSIST; packet++)
printf("enum num=%d\n", packet);
return 0;
}
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$

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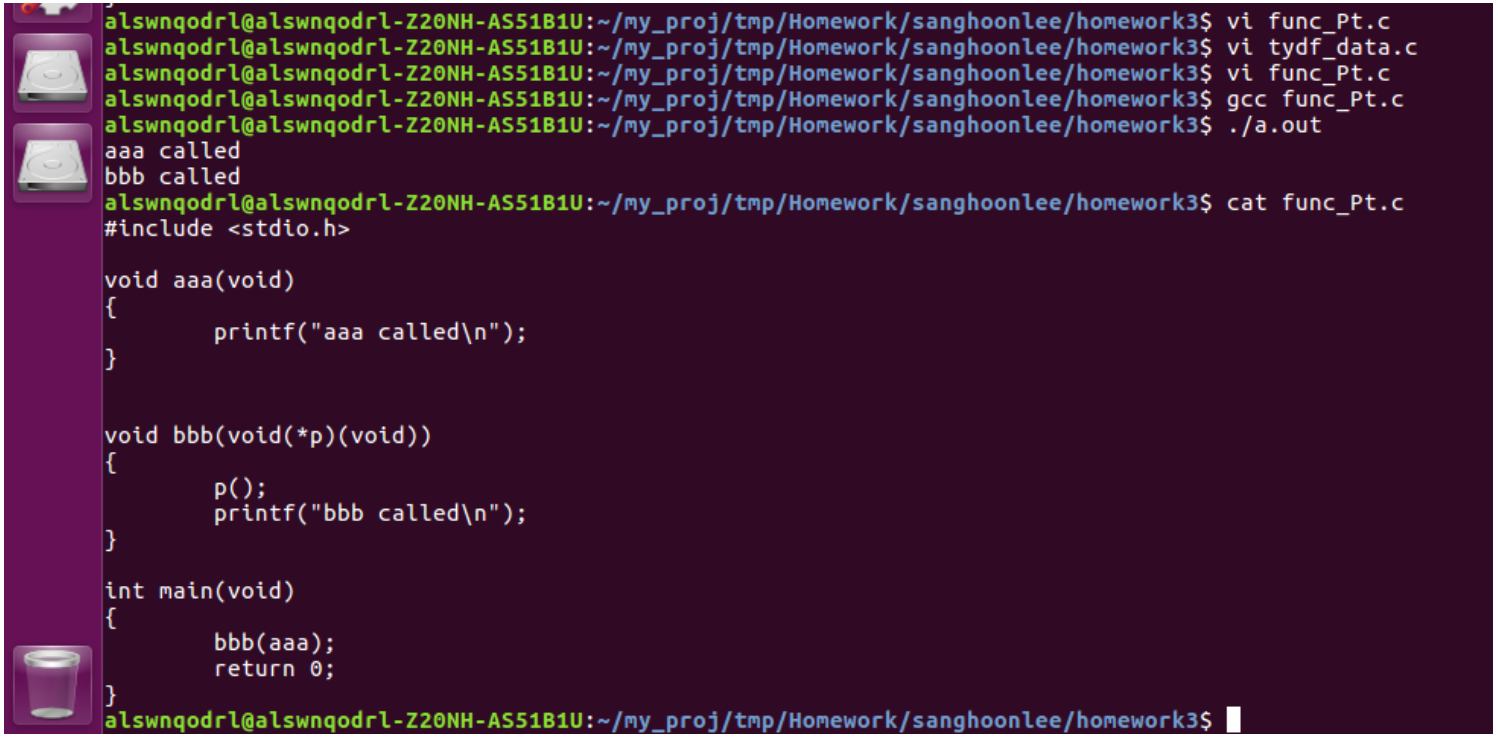
6, 7일차 내용 복습


alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi func_Pt.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi tydf_data.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi func_Pt.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc func_Pt.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ ./a.out
aaa called
bbb called
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ cat func_Pt.c
#include <stdio.h>
void aaa(void)
{
printf("aaa called\n");
}
void bbb(void(*p)(void))
{
p();
printf("bbb called\n");
}
int main(void)
{
bbb(aaa);
return 0;
}
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$

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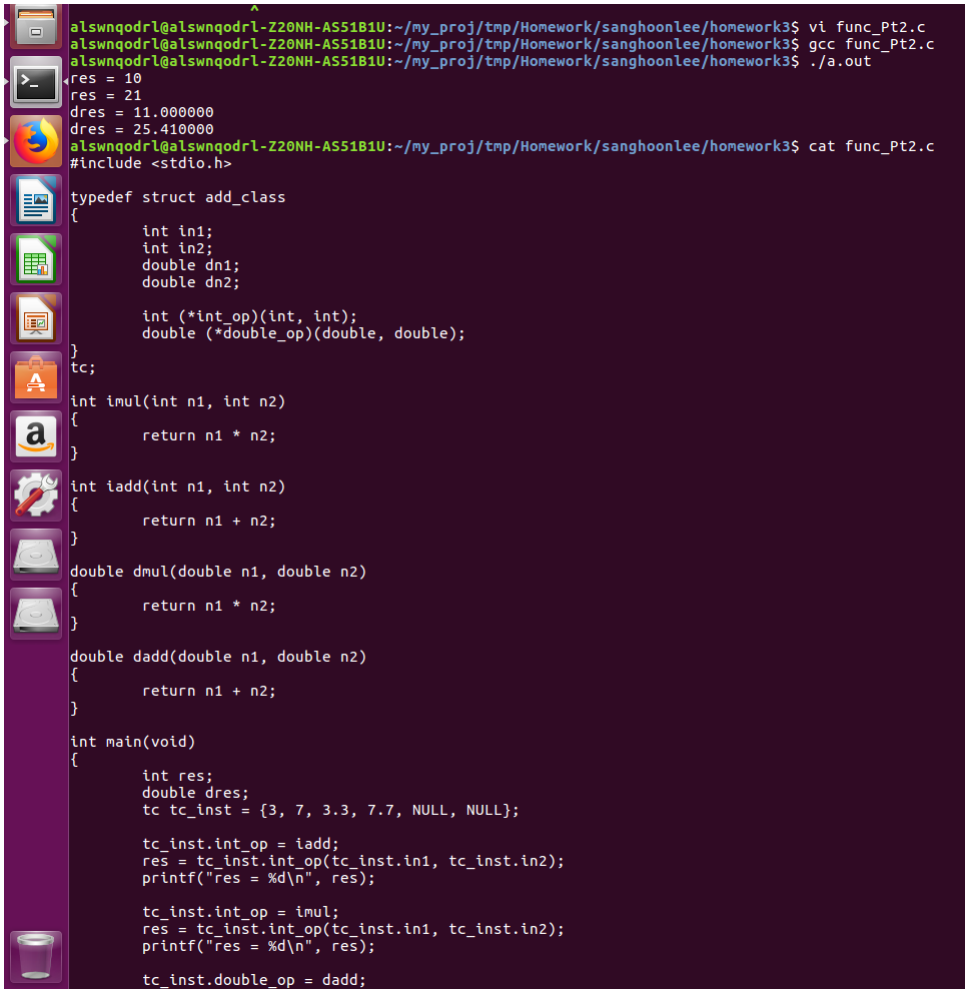
6, 7일차 내용 복습



```
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ vi func_Pt2.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ gcc func_Pt2.c
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ ./a.out
res = 10
res = 21
dres = 11.000000
dres = 25.410000
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ cat func_Pt2.c
#include <stdio.h>

typedef struct add_class
{
        int in1;
        int in2;
        double dn1;
        double dn2;

        int (*int_op)(int, int);
        double (*double_op)(double, double);
}
tc;

int imul(int n1, int n2)
{
        return n1 * n2;
}

int iadd(int n1, int n2)
{
        return n1 + n2;
}

double dmul(double n1, double n2)
{
        return n1 * n2;
}

double dadd(double n1, double n2)
{
        return n1 + n2;
}

int main(void)
{
        int res;
        double dres;
        tc tc_inst = {3, 7, 3.3, 7.7, NULL, NULL};

        tc_inst.int_op = iadd;
        res = tc_inst.int_op(tc_inst.in1, tc_inst.in2);
        printf("res = %d\n", res);

        tc_inst.int_op = imul;
        res = tc_inst.int_op(tc_inst.in1, tc_inst.in2);
        printf("res = %d\n", res);

        tc_inst.double_op = dadd;
```

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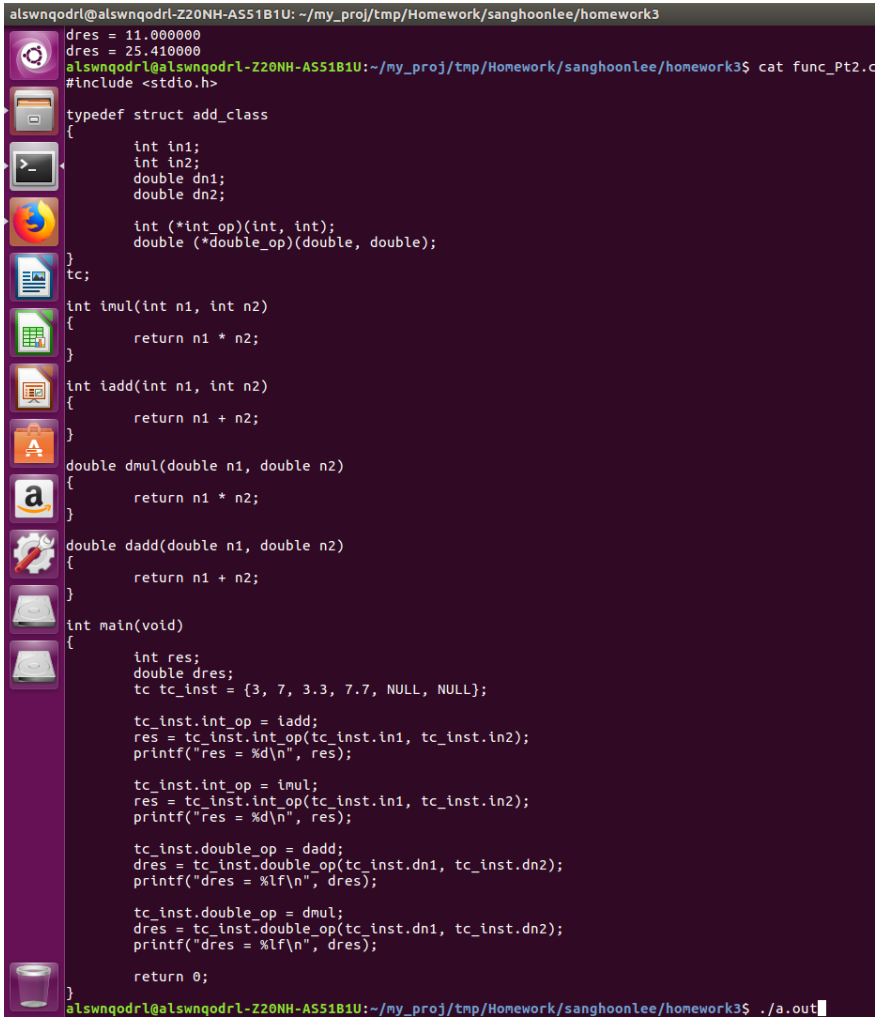
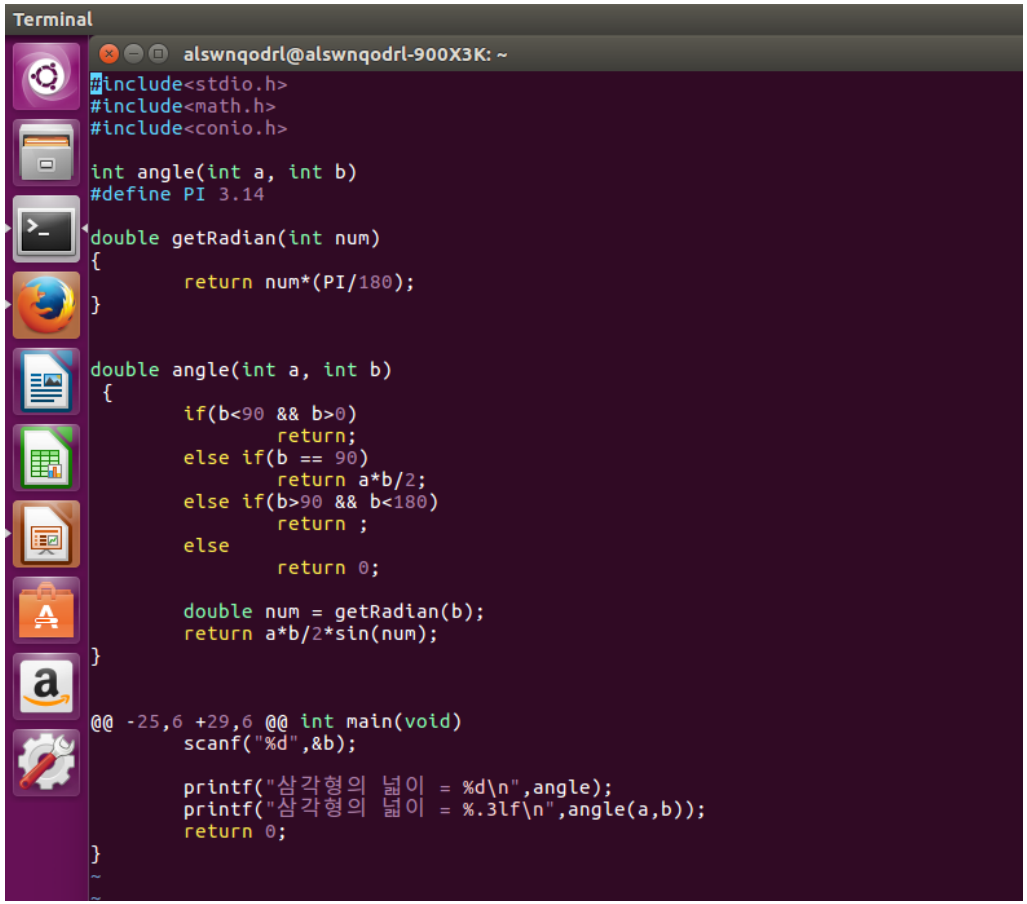
6, 7일차 내용 복습


alswnqodrl@alswnqodrl-Z20NH-AS51B1U: ~/my_proj/tmp/Homework/sanghoonlee/homework3
dres = 11.000000
dres = 25.410000
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ cat func_Pt2.c
#include <stdio.h>
typedef struct add_class
{
int in1;
int in2;
double dn1;
double dn2;
int (*int_op)(int, int);
double (*double_op)(double, double);
}
tc;
int imul(int n1, int n2)
{
return n1 * n2;
}
int iadd(int n1, int n2)
{
return n1 + n2;
}
double dmul(double n1, double n2)
{
return n1 * n2;
}
double dadd(double n1, double n2)
{
return n1 + n2;
}
int main(void)
{
int res;
double dres;
tc tc_inst = {3, 7, 3.3, 7.7, NULL, NULL};
tc_inst.int_op = iadd;
res = tc_inst.int_op(tc_inst.in1, tc_inst.in2);
printf("res = %d\n", res);
tc_inst.int_op = imul;
res = tc_inst.int_op(tc_inst.in1, tc_inst.in2);
printf("res = %d\n", res);
tc_inst.double_op = dadd;
dres = tc_inst.double_op(tc_inst.dn1, tc_inst.dn2);
printf("dres = %lf\n", dres);
tc_inst.double_op = dmul;
dres = tc_inst.double_op(tc_inst.dn1, tc_inst.dn2);
printf("dres = %lf\n", dres);
return 0;
}
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ ./a.out

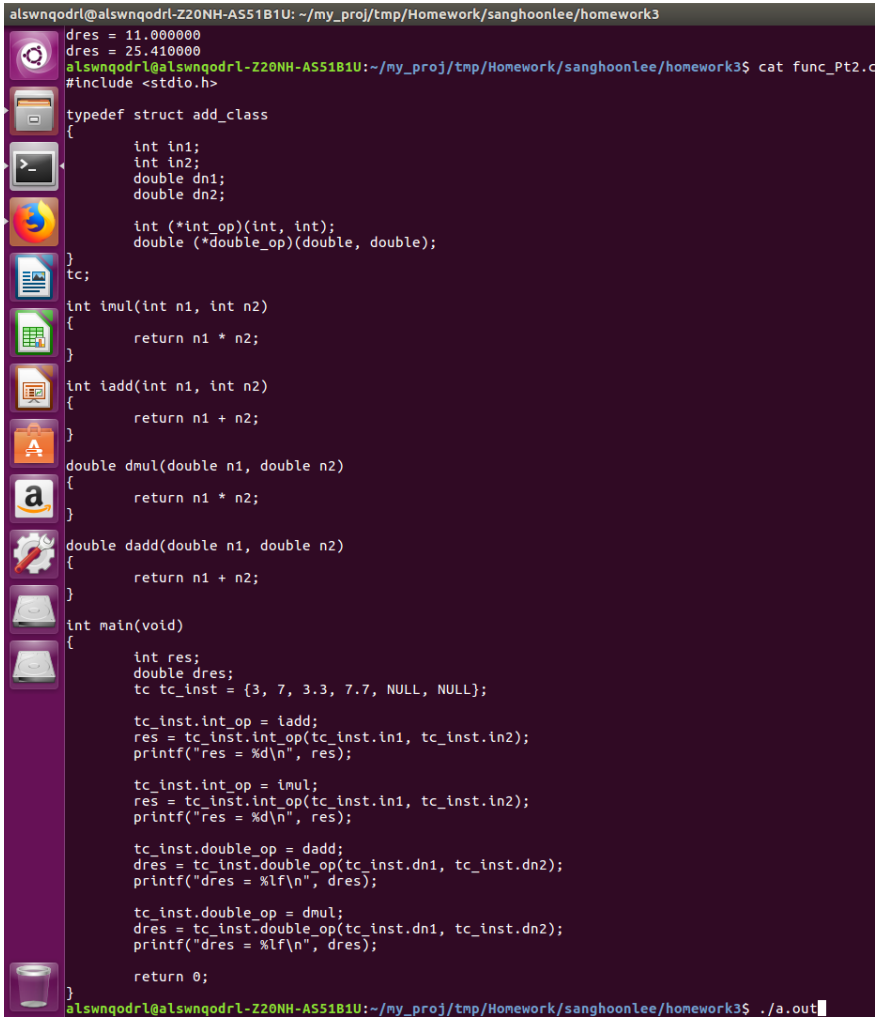
01

6, 7일차 내용 복습


Terminal
alswnqodrl@alswnqodrl-900X3K: ~
#include<stdio.h>
#include<math.h>
#include<conio.h>
int angle(int a, int b)
#define PI 3.14
double getRadian(int num)
{
return num*(PI/180);
}
double angle(int a, int b)
{
if(b<90 && b>0)
return;
else if(b == 90)
return a*b/2;
else if(b>90 && b<180)
return ;
else
return 0;
double num = getRadian(b);
return a*b/2*sin(num);
}
@@ -25,6 +29,6 @@ int main(void)
scanf("%d",&b);
printf("삼각형의 넓이 = %d\n",angle);
printf("삼각형의 넓이 = %.3lf\n",angle(a,b));
return 0;
}

01

6, 7일차 내용 복습


alswnqodrl@alswnqodrl-Z20NH-AS51B1U: ~/my_proj/tmp/Homework/sanghoonlee/homework3
dres = 11.000000
dres = 25.410000
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ cat func_Pt2.c
#include <stdio.h>
typedef struct add_class
{
int in1;
int in2;
double dn1;
double dn2;
int (*int_op)(int, int);
double (*double_op)(double, double);
}
tc;
int imul(int n1, int n2)
{
return n1 * n2;
}
int iadd(int n1, int n2)
{
return n1 + n2;
}
double dmul(double n1, double n2)
{
return n1 * n2;
}
double dadd(double n1, double n2)
{
return n1 + n2;
}
int main(void)
{
int res;
double dres;
tc tc_inst = {3, 7, 3.3, 7.7, NULL, NULL};
tc_inst.int_op = iadd;
res = tc_inst.int_op(tc_inst.in1, tc_inst.in2);
printf("res = %d\n", res);
tc_inst.int_op = imul;
res = tc_inst.int_op(tc_inst.in1, tc_inst.in2);
printf("res = %d\n", res);
tc_inst.double_op = dadd;
dres = tc_inst.double_op(tc_inst.dn1, tc_inst.dn2);
printf("dres = %lf\n", dres);
tc_inst.double_op = dmul;
dres = tc_inst.double_op(tc_inst.dn1, tc_inst.dn2);
printf("dres = %lf\n", dres);
return 0;
}
alswnqodrl@alswnqodrl-Z20NH-AS51B1U:~/my_proj/tmp/Homework/sanghoonlee/homework3$ ./a.out

02

6, 7일차 내용 복습

* 함수 포인터를 해석할 때는 맨 앞에 있는 포인터부터 괄호로 묶고 맨 뒤에 있는 인자를 맨 앞의 포인터 뒤로 옮긴다. 그 다음 포인터를 괄호로 묶고 맨 뒤에 있는 인자를 방금 괄호로 묶은 포인터 뒤로 옮긴다. 이 작업을 반복한다.

1) int (*p) (char) : int형을 반환하고, char형을 인자로 갖는 함수에 대한 포인터

2) void bbb(void(*p)(void))

void를 반환하고, void를 반환하고 void를 인자로 갖는 함수에 대한 포인터를 인자로 갖는 함수

3) void (*bbb(void))(void)

➔ void (*)(void) bbb(void)

➔ void를 반환하고 void를 인자로 갖는 함수의 포인터를 반환하고, void를 인자로 갖는 함수

4) int (*(*bbb(void))(void))[2]

➔ int (*)[2](*bbb(void))(void)

➔ int (*)[2] (*)(void) bbb(void)

➔ int형 2개 묶음의 배열의 포인터를 반환하고 void를 인자로 갖는 함수의 포인터를 반환하고, void를 인자로 갖는 함수

5) void (*bbb(void(*p)(void)))(void)

➔ void (*)(void) bbb(void(*p)(void))

➔ void를 반환하고 void를 인자로 갖는 함수의 포인터를 반환하고, void를 반환하고 void를 인자로 갖는 함수의 포인터를 인자로 갖는 함수

- 함수 포인터 작성 방법 : 함수 포인터를 해석할 때의 방법을 거꾸로 하면서 작성한다.

03

float (* (* test(void (*p)(void)))(float (*)(int, int)))(int, int)
위와 같은 프로토타입의 함수가 구동되도록 프로그래밍 하시오.

```
alswnqodrl@alswnqodrl-900X3K:~$ vi h6_2.c
alswnqodrl@alswnqodrl-900X3K:~$ gcc h6_2.c
alswnqodrl@alswnqodrl-900X3K:~$ ./a.out
hello baby!
0.300000
result of test = 0.800000
alswnqodrl@alswnqodrl-900X3K:~$ cat h6_2.c
#include <stdio.h>

float bbb(int n1, int n2)
{
        return 0.2*(n1 + n2);
}

float ccc(int n1, int n2)
{
        return 0.1*(n1+n2);
}

//float (*)(int,int) aaa(float(*)(int,int))
float (*aaa(float(*p2)(int, int)))(int, int)
{
        float res = p2(1,2);
        printf("%lf\n",res);
        return bbb;
}
```

```
void ddd(void)
{
        char string[] = "hello baby!";
        printf("%s\n", string);
}


// float (*)(int,int) (*)(float(*)(int,int)) test(void(*p1)(void))
float (*(*test(void(*p1)(void)))(float(*)(int, int)))(int, int)
{
        p1();     // ddd 대입
        return aaa;
}

int main(void)
{
        float res;
        res = test(ddd)(ccc)(1,3);

        printf("result of test = %lf\n",res);
        return 0;
}
alswnqodrl@alswnqodrl-900X3K:~$
```