오픈소스리눅스 week12

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실습1

```c
#include <stdio.h>

int main(void){
        int a, b, tmp;
        printf("최대 공약수를 구하기 위해 두 수를 입력하세요 \n").
        scanf("%d %d", &a, &b);

        if(a > b){
                tmp = a;
                a = b;
                b = tmp;
        }

        int r;

        while(1){
                r = b % a;
                a = b;
                b = r;
                if(b == 0) break;
        }

        printf("두 수의 최대공약수는 %d 입니다. \n", a);

}
```

```
hallym@X57-VM-N1-42:~/week11$ vi main.c
hallym@X57-VM-N1-42:~/week11$ ls
main.c
hallym@X57-VM-N1-42:~/week11$ gcc -o main main.c
hallym@X57-VM-N1-42:~/week11$ ls
main  main.c
hallym@X57-VM-N1-42:~/week11$ ./main
최대 공약수를 구하기 위해 두 수를 입력하세요
2 3
두 수의 최대공약수는 1 입니다.
hallym@X57-VM-N1-42:~/week11$
```

실습2

```c
#include <stdio.h>

int main(void){
        int i=1;

        for(int j=2; i<=10; j++){
                for(int a = 2; a <= j; a++)
                        if(a == j){
                                printf("%d ",a);
                                i++;
                        }
                        else if(j % a == 0){ break;}
        }
}
```

```
hallym@X57-VM-N1-42:~/week11$ vi main2.c
hallym@X57-VM-N1-42:~/week11$ gcc -o main2 main2.c
hallym@X57-VM-N1-42:~/week11$ ls
main  main2  main2.c  main.c
hallym@X57-VM-N1-42:~/week11$ ./main2
2 3 5 7 11 13 17 19 23 29 hallym@X57-VM-N1-42:~/week11$
hallym@X57-VM-N1-42:~/week11$
```

실습3

```c
#include <stdio.h>
#include "func.h"

int main(void){
        int num;
        printf("정 수  입 력 : \n");
        scanf("%d",&num);
        printf("2의  %d승 은  %d \n", num, func(num));
        return 0;

}
~
```

```
hallym@X57-VM-N1-42:~/week11$ vi func.c
hallym@X57-VM-N1-42:~/week11$ vi main3.c
hallym@X57-VM-N1-42:~/week11$ gcc -c func.c
hallym@X57-VM-N1-42:~/week11$ gcc -c main3.c
hallym@X57-VM-N1-42:~/week11$ gcc -o main3 main3.o func.o
hallym@X57-VM-N1-42:~/week11$ ls
func.c  func.o  main2    main3    main3.o
func.h  main    main2.c  main3.c  main.c
hallym@X57-VM-N1-42:~/week11$ ./main3
정 수  입 력 :
3
2의  3승 은  8
hallym@X57-VM-N1-42:~/week11$
```

```c
int func(int n){
        static int i = 1;
        if(n == 0){
                return i;
        }

        i = i * 2;
        func(n-1);
}
```

```c
int func(int n);
```

실습4

```c
#include <stdio.h>
#include "myheader.h"
int main(void){
        int arr[7];
        for(int i=0; i<7; i++){
                printf("입력  : ");
                scanf("%d", &arr[i]);
        }
        printf("\n");

        bubblesort(arr, 7);

        for(int i=0; i<7; i++){
                printf("%d", arr[i]);
        }
}
~
```

```c
void bubblesort(int *arr, int len){
        int i, j;
        int temp=0;

        for(i=0; i <len-1; i++){
                for(j = 0; j < len-1-i; j++){
                        if(arr[j] < arr[j+1]){
                                temp = arr[j];
                                arr[j] = arr[j+1];
                                arr[j+1] = temp;
                        }
                }
        }
}
```

```c
void bubblesort(int *arr, int len);

~
```

```
hallym@X57-VM-N1-42:~/week11$ vi bubble.c
hallym@X57-VM-N1-42:~/week11$ vi sortmain.c
hallym@X57-VM-N1-42:~/week11$ vi myheader.h
hallym@X57-VM-N1-42:~/week11$ ls
bubble.c  func.h  main   main2.c  main3.c  main.c    sortmain.c
func.c    func.o  main2  main3    main3.o  myheader.h
hallym@X57-VM-N1-42:~/week11$ gcc -c sortmain.c
hallym@X57-VM-N1-42:~/week11$ gcc bubble.c
/usr/lib/gcc/x86_64-linux-gnu/7/../../../x86_64-linux-gnu/Scrt1.o
nction `_start':
(.text+0x20): undefined reference to `main'
collect2: error: ld returned 1 exit status
hallym@X57-VM-N1-42:~/week11$ gcc -c bubble.c
hallym@X57-VM-N1-42:~/week11$ ls
bubble.c  func.h  main2    main3.c  myheader.h
bubble.o  func.o  main2.c  main3.o  sortmain.c
func.c    main    main3    main.c   sortmain.o
hallym@X57-VM-N1-42:~/week11$ gcc -o sortmain sortmain.o bubble.o
hallym@X57-VM-N1-42:~/week11$ ls
bubble.c  func.h  main2    main3.c  myheader.h   sortmain.o
bubble.o  func.o  main2.c  main3.o  sortmain
func.c    main    main3    main.c   sortmain.c
hallym@X57-VM-N1-42:~/week11$ ./sortmain
입력  : 1
입력  : 2
입력  : 3
입력  : 4
입력  : 5
입력  : 6
입력  : 7

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```