System Programming- Midterm Exam answer sheet 17011755 김해린

1.

```
lini@haerin:~/sysmidterm$ ./17011755-problem1
Child PID is 463, Parent PID is 462.
Parent PID is 462
```

2.

```
lini@haerin:~/sysmidterm$ ./17011755-problem2-execl
execl() function execution
total 52
-rwxr-xr-x 1 lini lini  8792 Oct 22 14:40 17011755-problem1
-rw-r--r-- 1 lini lini   382 Oct 22 14:38 17011755-problem1.c
-rwxr-xr-x 1 lini lini  8752 Oct 22 14:45 17011755-problem2-execl
-rw-r--r-- 1 lini lini   472 Oct 22 14:45 17011755-problem2-execl.c
-rwxr-xr-x 1 lini lini 11216 Oct 22 15:07 average
-rw-r--r-- 1 lini lini   357 Oct 22 15:08 average.c
```

3.

```
lini@haerin:~/sysmidterm$ vim average.c
lini@haerin:~/sysmidterm$ gcc -g -o average average.c
lini@haerin:~/sysmidterm$ gdb -q average
Reading symbols from average...done.
(gdb) run
Starting program: /home/lini/sysmidterm/average
Input the system programming, algortihm, and network score:82 80 86
The average of the three subjects is 190.
[Inferior 1 (process 430) exited normally]
(gdb) q
lini@haerin:~/sysmidterm$ vim average.c
lini@haerin:~/sysmidterm$ gcc -g -o average average.c
lini@haerin:~/sysmidterm$ gdb -q average
Reading symbols from average...done.
(gdb) b *main+20
Breakpoint 1 at 0x794: file average.c, line 4.
(gdb) r
Starting program: /home/lini/sysmidterm/average
Input the system programming, algortihm, and network score:82 80 86
The average of the three subjects is 82.00.
*** stack smashing detected ***: <unknown> terminated

Program received signal SIGABRT, Aborted.
__GI_raise (sig=sig@entry=6) at ../sysdeps/unix/sysv/linux/raise.c:51
51      ../sysdeps/unix/sysv/linux/raise.c: No such file or directory.
(gdb) q
A debugging session is active.

        Inferior 1 [process 442] will be killed.

Quit anyway? (y or n) y
```

정해진 스택 영역에서 (82+80+86)/3=82.666666666 …으로 오버플로우가 발생하여 ***stack smashing detected*** 에러를 확인했다.