

Lab 14

OS

name: Basil khowaja

Q1) How did you stop the code in section 3?

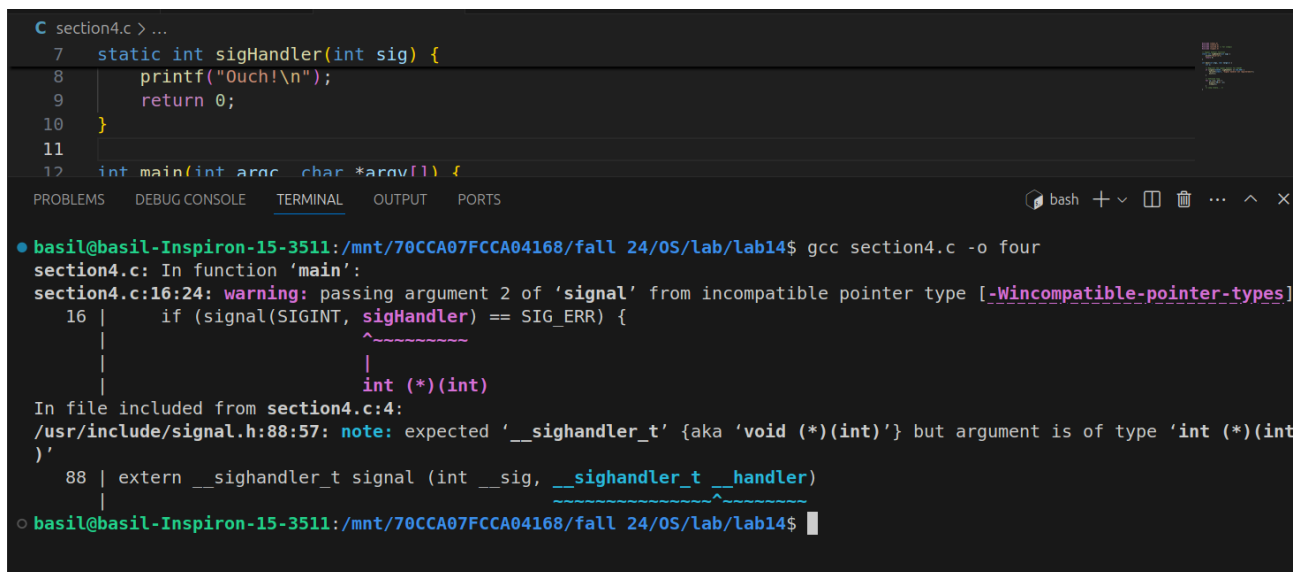
I stopped it by pressing the kill terminal button on vscode which killed the terminal and ongoing program of code3

Q2) How do we use signal function in section 3?

We are using the signal function by using the statement `signal(SIGINT, SIG_IGN)`, here `SIGINT` is the interrupt signal which occurs by pressing `Ctrl+C`, and `SIG_IGN` tells the operating system to ignore this signal. If the signal function returns `SIG_ERR`, it shows an error in the handler, and the program prints an error message and exits. By this method the code runs in forever infinity loop.

Q3)

output on implementing return function:



```
C section4.c > ...
7 static int sigHandler(int sig) {
8     printf("Ouch!\\n");
9     return 0;
10 }
11
12 int main(int argc, char *argv[]) {
13     if (signal(SIGINT, sigHandler) == SIG_ERR) {
14         // ...
15     }
16 }

PROBLEMS  DEBUG CONSOLE  TERMINAL  OUTPUT  PORTS
● basil@basil-Inspiron-15-3511:/mnt/70CCA07FCCA04168/fall_24/OS/lab/lab14$ gcc section4.c -o four
section4.c: In function 'main':
section4.c:16:24: warning: passing argument 2 of 'signal' from incompatible pointer type [-Wincompatible-pointer-types]
16 |     if (signal(SIGINT, sigHandler) == SIG_ERR) {
    |                        ^~~~~~
    |                        |
    |                        int (*)(int)
In file included from section4.c:4:
/usr/include/signal.h:88:57: note: expected '.__sig_handler_t' {aka 'void (*)(int)'} but argument is of type 'int (*)(int)'
88 | extern __sig_handler_t signal (int __sig, __sig_handler_t __handler)
    |                                ^~~~~~
○ basil@basil-Inspiron-15-3511:/mnt/70CCA07FCCA04168/fall_24/OS/lab/lab14$
```

When I compiled the code I got the warning about an incompatible pointer type. The warning says the signal function expected a handler of type `void (*)(int)` (a function pointer to a function returning void and taking an int as an argument). However I even provided a function `sigHandler` with the type `int (*)(int)` this happened because the signal function in the standard C library is designed to handle signals using a function with a specific signature: `void handler(int)`. This means the signal handler function must be void, but when we changed it to int and tried to return something it gave us error.

