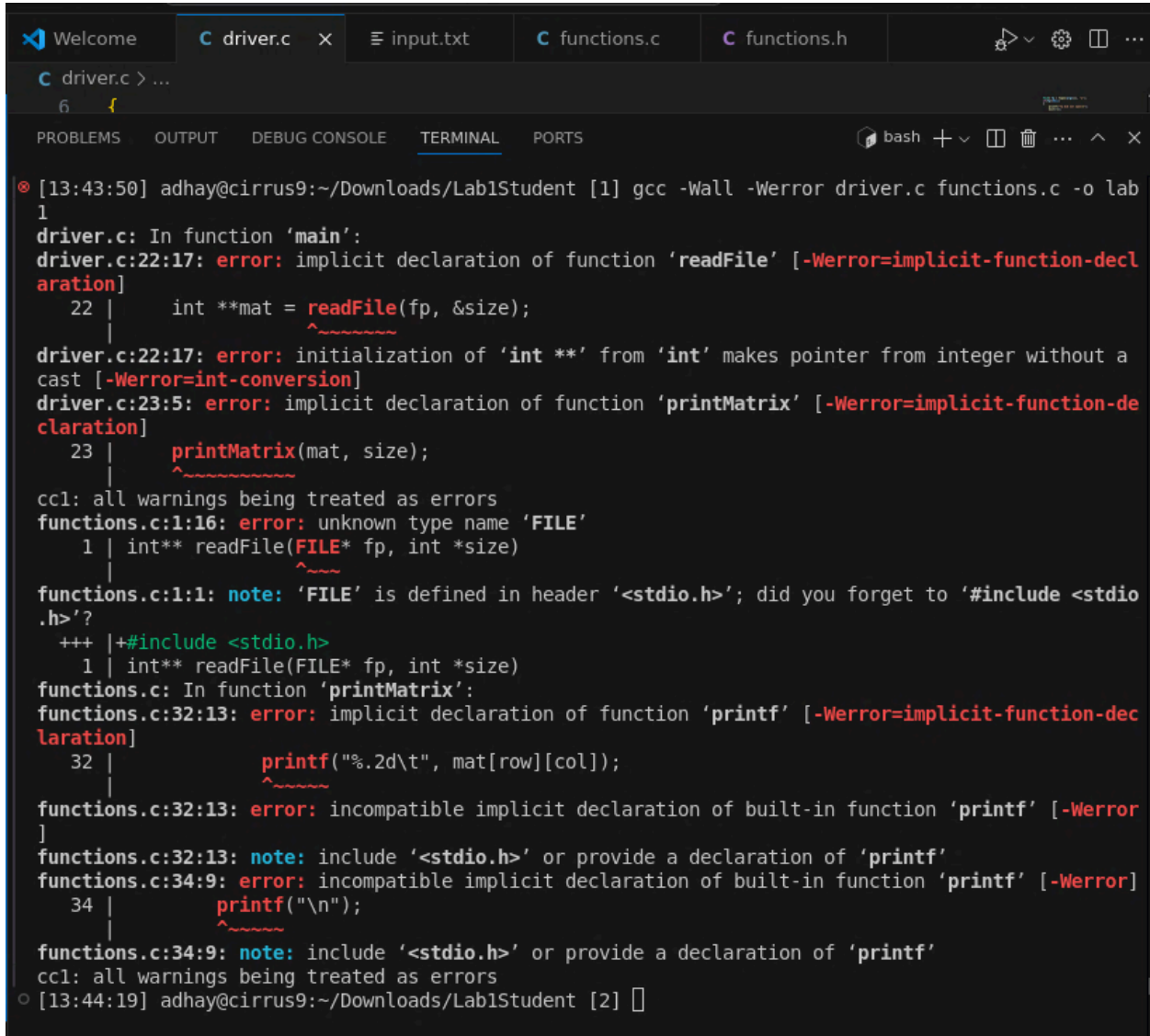


Anthony Hay Jr
CPSC 2310
Professor Cabrera
01 June 2025

Part 1

1 (Screenshot of Compile time before fixing code)



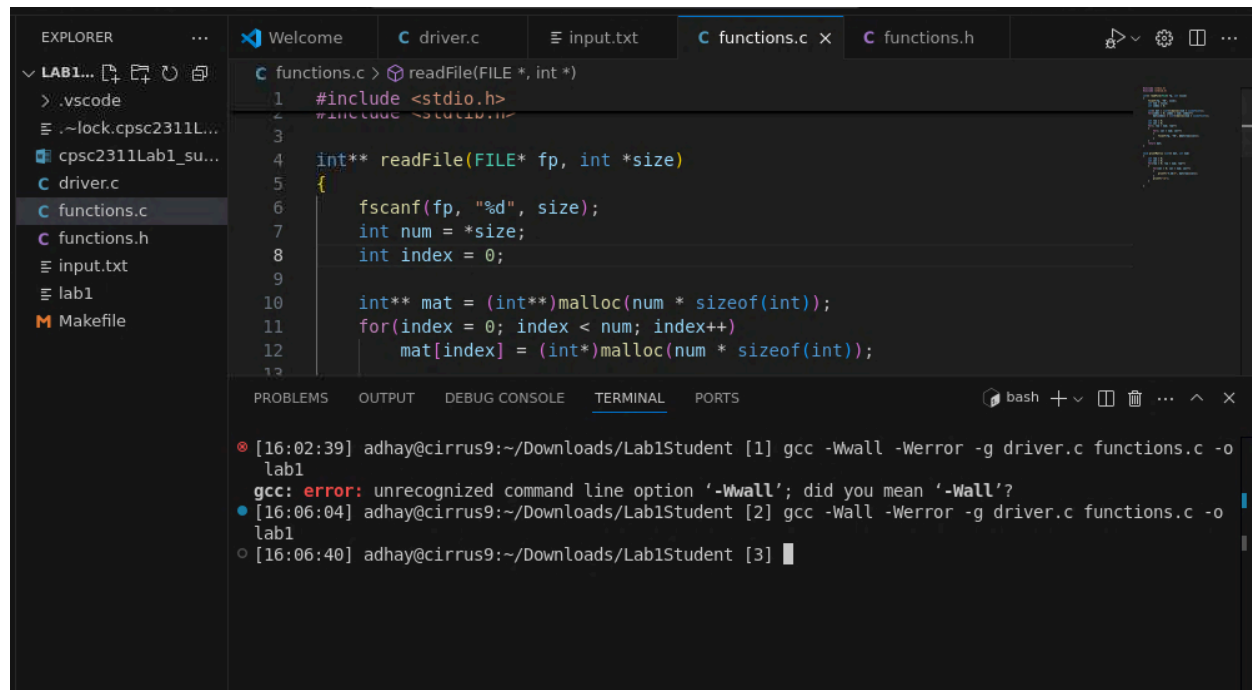
```

C driver.c > ...
6 {

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
bash + v [ ] [ ] ... ^ x

[13:43:50] adhay@cirrus9:~/Downloads/Lab1Student [1] gcc -Wall -Werror driver.c functions.c -o lab1
driver.c: In function 'main':
driver.c:22:17: error: implicit declaration of function 'readFile' [-Werror=implicit-function-decl
22 |     int **mat = readFile(fp, &size);
    |                   ^~~~~~
driver.c:22:17: error: initialization of 'int **' from 'int' makes pointer from integer without a
cast [-Werror=int-conversion]
driver.c:23:5: error: implicit declaration of function 'printMatrix' [-Werror=implicit-function-de
23 |     printMatrix(mat, size);
    |     ^~~~~~
ccl: all warnings being treated as errors
functions.c:1:16: error: unknown type name 'FILE'
1 | int** readFile(FILE* fp, int *size)
  |               ^~~~~
functions.c:1:1: note: 'FILE' is defined in header '<stdio.h>'; did you forget to '#include <stdio
.h>'?
+++ |+#include <stdio.h>
1 | int** readFile(FILE* fp, int *size)
functions.c: In function 'printMatrix':
functions.c:32:13: error: implicit declaration of function 'printf' [-Werror=implicit-function-dec
32 |         printf("%.2d\t", mat[row][col]);
    |         ^~~~~~
functions.c:32:13: error: incompatible implicit declaration of built-in function 'printf' [-Werror
]
functions.c:32:13: note: include '<stdio.h>' or provide a declaration of 'printf'
functions.c:34:9: error: incompatible implicit declaration of built-in function 'printf' [-Werror]
34 |         printf("\n");
    |         ^~~~~~
functions.c:34:9: note: include '<stdio.h>' or provide a declaration of 'printf'
ccl: all warnings being treated as errors
[13:44:19] adhay@cirrus9:~/Downloads/Lab1Student [2] [ ]
```

2 (All compile-time errors and warnings resolved)

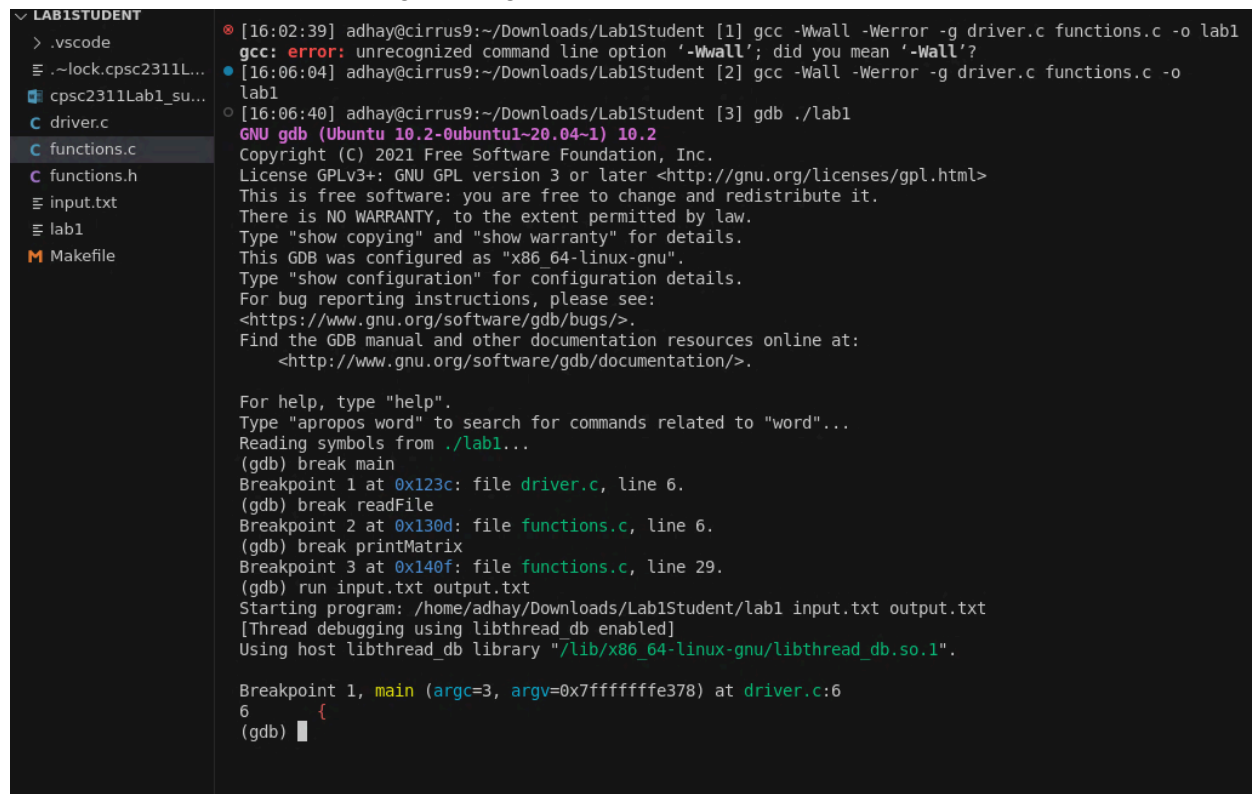


```
1 #include <stdio.h>
2 #include <stdlib.h>
3
4 int** readFile(FILE* fp, int *size)
5 {
6     fscanf(fp, "%d", size);
7     int num = *size;
8     int index = 0;
9
10    int** mat = (int**)malloc(num * sizeof(int));
11    for(index = 0; index < num; index++)
12        mat[index] = (int*)malloc(num * sizeof(int));
13}
```

```
[16:02:39] adhay@cirrus9:~/Downloads/Lab1Student [1] gcc -Wwall -Werror -g driver.c functions.c -o lab1
gcc: error: unrecognized command line option '-Wwall'; did you mean '-Wall'?
[16:06:04] adhay@cirrus9:~/Downloads/Lab1Student [2] gcc -Wall -Werror -g driver.c functions.c -o lab1
[16:06:40] adhay@cirrus9:~/Downloads/Lab1Student [3]
```

Part 2

3 (set breakpoints and ran program in gdb)



```
[16:02:39] adhay@cirrus9:~/Downloads/Lab1Student [1] gcc -Wwall -Werror -g driver.c functions.c -o lab1
gcc: error: unrecognized command line option '-Wwall'; did you mean '-Wall'?
[16:06:04] adhay@cirrus9:~/Downloads/Lab1Student [2] gcc -Wall -Werror -g driver.c functions.c -o lab1
[16:06:40] adhay@cirrus9:~/Downloads/Lab1Student [3] gdb ./lab1
GNU gdb (Ubuntu 10.2-0ubuntu1-20.04-1) 10.2
Copyright (C) 2021 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:
<https://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 ./lab1...
(gdb) break main
Breakpoint 1 at 0x123c: file driver.c, line 6.
(gdb) break readFile
Breakpoint 2 at 0x130d: file functions.c, line 6.
(gdb) break printMatrix
Breakpoint 3 at 0x140f: file functions.c, line 29.
(gdb) run input.txt output.txt
Starting program: /home/adiyah/Downloads/Lab1Student/lab1 input.txt output.txt
[Thread debugging using libthread_db enabled]
Using host libthread_db library "/lib/x86_64-linux-gnu/libthread_db.so.1".

Breakpoint 1, main (argc=3, argv=0x7fffffff378) at driver.c:6
6
(gdb)
```

4(Runtime error traced , matrix size = 0 / segmentation fault due to file opened in write mode)

```

Breakpoint 2, readFile (fp=0x5555555a150, size=0x7fffffff264) at functions.c:6
6      fscanf(fp, "%d", &size);
(gdb) step
isoc99_fscanf (stream=0x5555555a150, format=0x5555555606b "%d") at isoc99_fscanf.c:25
25      isoc99_fscanf.c: No such file or directory.
(gdb) next
29      in isoc99_fscanf.c
(gdb)
30      in isoc99_fscanf.c
(gdb) next
33      in isoc99_fscanf.c
(gdb) next
readFile (fp=0x5555555a150, size=0x7fffffff264) at functions.c:7
7      int num = *size;
(gdb) next
8      int index = 0;
(gdb) next
10     int** mat = (int**)malloc(num * sizeof(int));
(gdb) next
11     for(index = 0; index < num; index++)
(gdb) continue
Continuing.

Breakpoint 3, printMatrix (mat=0x5555555a330, num=0) at functions.c:29
29     int row = 0;
(gdb) c
Continuing.
[Inferior 1 (process 999420) exited normally]
(gdb) Quit
(gdb) bt

```

5 (segmentation fault)

```

• [17:39:10] adhay@cirrus9:~/Downloads/Lab1Student [13] gcc -Wall -Werror -g driver.c functions.c -o lab1
• [17:47:37] adhay@cirrus9:~/Downloads/Lab1Student [14] ./lab1 input.txt dummy.txt
checking command line arguments
argc = 3
Matrix size = 5
Finished reading matrix.
01  01  01  01  01
00  00  00  00  00
00  00  00  00  00
00  00  00  00  00
Segmentation fault (core dumped)
○ [17:47:46] adhay@cirrus9:~/Downloads/Lab1Student [15] █

```

Size was never given a valid value since the file was opened in write mode it erased the input.txt. The fscanf failed and the size was 0 . the loops were skipped