

EEE3096S 2023 Tutorial 1

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I. GDB WALKTHROUGH

The sequence of linux commands executed are shown below:

```
travimadox@travimadox:~/3096S-Pracs-WBBTRA001/Prac1$ nano main.c
travimadox@travimadox:~/3096S-Pracs-WBBTRA001/Prac1$ gcc -g main.c
travimadox@travimadox:~/3096S-Pracs-WBBTRA001/Prac1$ ./a.out
Enter a value for a: 3
Enter a value for b: 4
The sum of a and b is 4100
travimadox@travimadox:~/3096S-Pracs-WBBTRA001/Prac1$ gdb a.out
GNU gdb (Ubuntu 12.1-0ubuntu1~22.04) 12.1
Copyright (C) 2022 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 a.out...
(gdb) break 7
Breakpoint 1 at 0x401005: file main.c, line 8.
(gdb) break 10
Breakpoint 2 at 0x401009: file main.c, line 11.
(gdb) break 12
Breakpoint 3 at 0x40100d: file main.c, line 13.
(gdb) run
Starting program: /home/travimadox/3096S-Pracs-WBBTRA001/Prac1/a.out
Thread debugging using libthread_db enabled.
Using host libthread_db library "/lib/x86_64-linux-gnu/libthread_db.so.1".
Enter a value for a: 3

Breakpoint 1, main() at main.c:8
8   printf("Enter a value for a: ");
(gdb) print a
a = 3
(gdb) c
Continuing.
Enter a value for b: 4

Breakpoint 2, main() at main.c:11
11  sum = a + b;
(gdb) print b
b = 4096
(gdb) q
A debugging session is active.

Inferior 1 [process 6005] will be killed.

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

Fig. 1. gdb

II. ERROR CORRECTION

The corrected code can be found at: <https://github.com/Travimadox/3096S-Pracs-WBBTRA001/tree/main>.

The corrected code is shown below:

```
1 #include <stdio.h>
2 int main() {
3     int a, b, sum;
4
5     printf("Enter a value for a: ");
6     scanf("%d", &a);
7
8     printf("Enter a value for b: ");
9     scanf("%d", &b);
10
11     sum = a + b;
12
13     printf("The sum of a and b is %d \n.", sum);
14 }
```

III. TESTING

Testing of the correct code is shown below:

```
travimadox@travimadox:~/3096S-Pracs-WBBTRA001/Prac1$ gcc main.c
travimadox@travimadox:~/3096S-Pracs-WBBTRA001/Prac1$ ./a.out
Enter a value for a: 3
Enter a value for b: 5
The sum of a and b is 8
travimadox@travimadox:~/3096S-Pracs-WBBTRA001/Prac1$
```

Fig. 2. Testing corrected code

REFERENCES