

## Q1

```
aqiba@aqiba-Lenovo-V14-G3-IAP:~$ cd /home/aqiba/Desktop/
aqiba@aqiba-Lenovo-V14-G3-IAP:~/Desktop$ gcc -g -o multiply multiply.c
aqiba@aqiba-Lenovo-V14-G3-IAP:~/Desktop$ gdb ./multiply
GNU gdb (Ubuntu 12.1-0ubuntu1~22.04) 12.1
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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 ./multiply...
(gdb) break 16
Breakpoint 1 at 0x11dc: file multiply.c, line 16.
(gdb) run 2 3
Starting program: /home/aqiba/Desktop/multiply 2 3
[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=0x7fffffffef128) at multiply.c:16
16          c = a * i;
(gdb) continue
Continuing.
2 * 1 = 2

Breakpoint 1, main (argc=3, argv=0x7fffffffef128) at multiply.c:16
16          c = a * i;
(gdb) continue
Continuing.
2 * 2 = 4

Breakpoint 1, main (argc=3, argv=0x7fffffffef128) at multiply.c:16
16          c = a * i;
(gdb) continue
Continuing.
2 * 3 = 6
[Inferior 1 (process 18336) exited normally]
(gdb) quit
aqiba@aqiba-Lenovo-V14-G3-IAP:~/Desktop$
```



**Q2.**

```
Type "apropos word" to search for commands related to "word"...
Reading symbols from ./new...
(gdb) break 10
Breakpoint 1 at 0x11d7: file new.c, line 10.
(gdb) run
Starting program: /home/aqiba/Desktop/new
[Thread debugging using libthread_db enabled]
Using host libthread_db library "/lib/x86_64-linux-gnu/libthread_db.so.1".

Breakpoint 1, main () at new.c:10
10      myArray[i] = myArray[i] * 2;
(gdb) watch myArray[0]
Hardware watchpoint 2: myArray[0]
(gdb) continue
Continuing.

Hardware watchpoint 2: myArray[0]

Old value = 10
New value = 20
main () at new.c:9
9      for (int i = 0; i < arraySize; ++i) {
(gdb) continue
Continuing.

Breakpoint 1, main () at new.c:10
10      myArray[i] = myArray[i] * 2;
(gdb) continue
Continuing.

Breakpoint 1, main () at new.c:10
10      myArray[i] = myArray[i] * 2;
(gdb) continue
Continuing.

Breakpoint 1, main () at new.c:10
10      myArray[i] = myArray[i] * 2;
(gdb) continue
Continuing.

Breakpoint 1, main () at new.c:10
10      myArray[i] = myArray[i] * 2;
(gdb) continue
Continuing.
Modified Array: 20 40 60 80 100

Watchpoint 2 deleted because the program has left the block in
which its expression is valid.
0x00007ffff7c29d90 in __libc_start_call_main (main=main@entry=0x555555555189 <main>
58      ./sysdeps/nptl/libc_start_call_main.h: No such file or directory.
(gdb) continue
Continuing.
[Inferior 1 (process 18761) exited normally]
(gdb) quit
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```