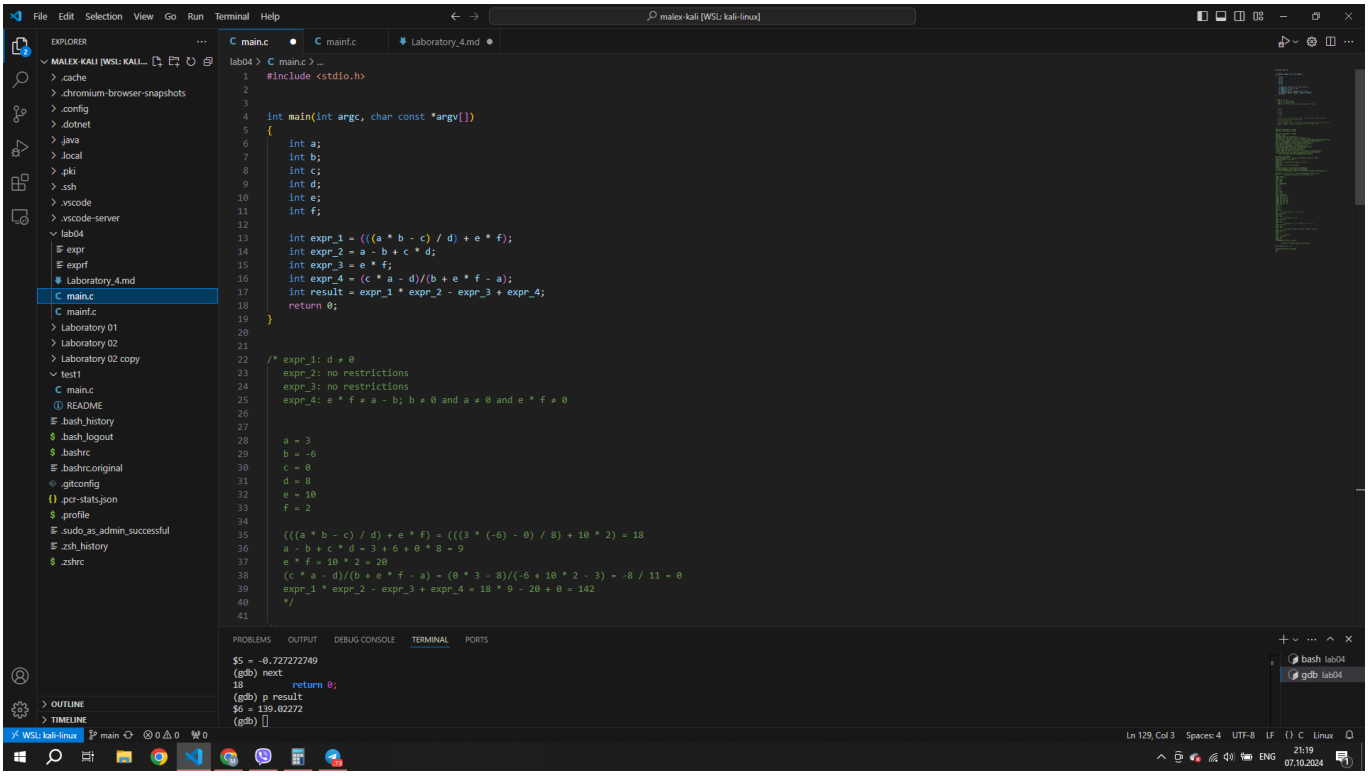
Report 4

Main with integer

I begun with creating a programm with int data type



Text of debugging

> ┌──(malex-kali㉿MA)-[~/lab04]
> └─$ gcc -g -O0 main.c -o expr
>
> ┌──(malex-kali㉿MA)-[~/lab04]
> └─$ gdb ./expr GNU gdb (Debian 13.2-1+b2) 13.2
> Copyright (C) 2023 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/. --Type for more, q to quit, c to continue without paging--c 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 ./expr...
> (gdb) b 7
> Breakpoint 1 at 0x1134: file main.c, line 13.

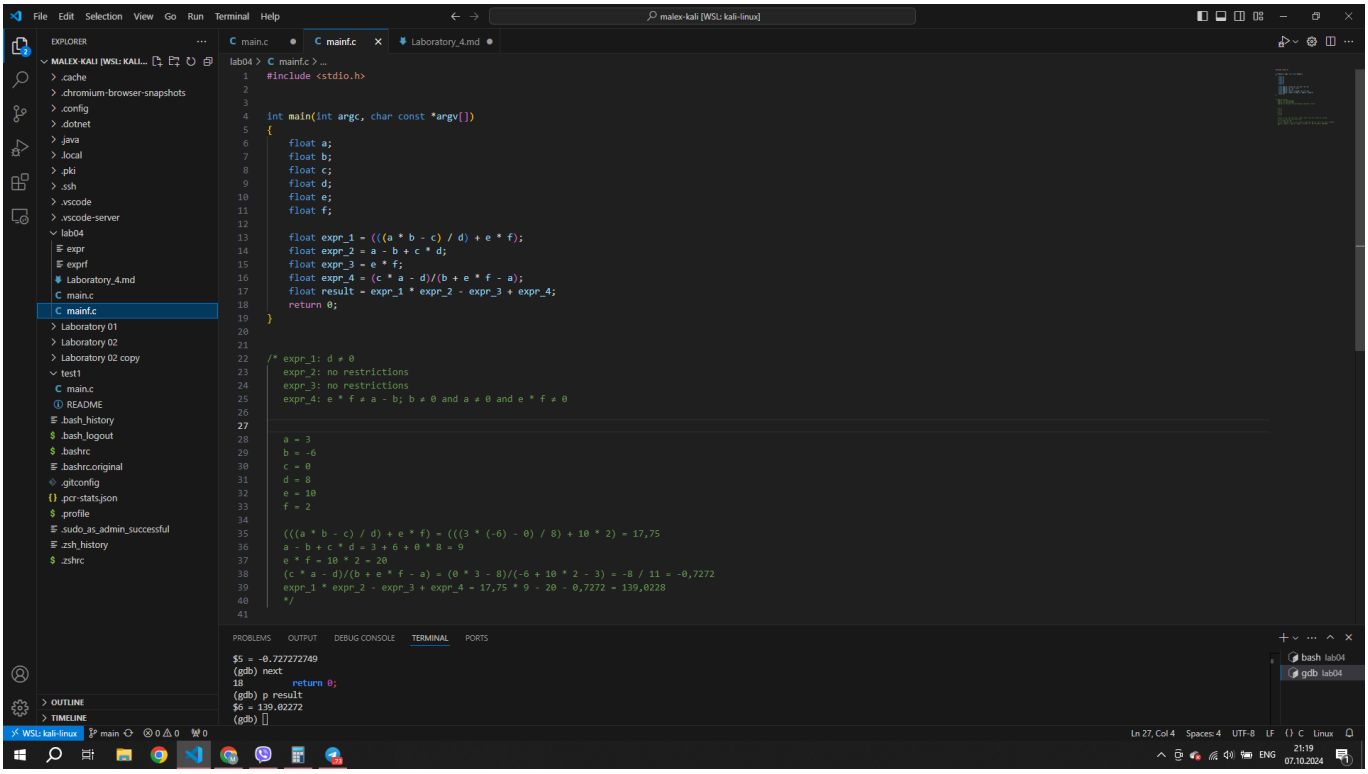
```
(gdb) p a
No symbol "a" in current context.
(gdb) r
Starting program: /home/malex-kali/lab04/expr
[Thread debugging using libthread_db enabled]
Using host libthread_db library "/lib/x86_64-linux-gnu/libthread_db.so.1".

Breakpoint 1, main (argc=1, argv=0x7fffffffdf38) at main.c:13
13 int expr_1 = (((a * b - c) / d) + e * f);
(gdb) whatis a
type = int
(gdb) p a
$1 = 32767
(gdb) p b
$2 = -134227280 (gdb) p c
$3 = 0
(gdb) p d
$4 = 0
(gdb) p e
$5 = 32767
(gdb) p f
$6 = -134321088 (gdb) set var a=3
(gdb) set var b=-6
(gdb) set var c=0
(gdb) set var d=8
(gdb) set var e=10
(gdb) set var f=2
(gdb) p a
$7 = 3
(gdb) p c
$8 = 0
(gdb) next
14 int expr_2 = a - b + c * d; (gdb) p expr_1
$9 = 18 (gdb) next 15 int expr_3 = e * f;
(gdb) p expr_2
$10 = 9 (gdb) next
16 int expr_4 = (c * a - d)/(b + e * f - a);
(gdb) p expr_3
$11 = 20 (gdb) next
17 int result = expr_1 * expr_2 - expr_3 + expr_4;
(gdb) p expr_4
$12 = 0 (gdb) n
18 return 0;
(gdb) p result
$13 = 142
(gdb) q
A debugging session is active.
```

> Inferior 1 [process 4116] will be killed.
>
> Quit anyway? (y or n) y
>
> ┌──(malex-kali㉿MA)-[~/lab04]
> └─$

Main with float

Then I created a programm with float data type



Text of debugging

> ┌──(malex-kali㉿MA)-[~/lab04]
> └─$ cd /home/malex-kali/lab04
>
> ┌──(malex-kali㉿MA)-[~/lab04]
> └─$ gcc -g -O0 mainf.c -o exprf
>
> ┌──(malex-kali㉿MA)-[~/lab04]
> └─$ gdb ./exprf
> GNU gdb (Debian 13.2-1+b2) 13.2
> Copyright (C) 2023 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/.
--Type for more, q to quit, c to continue without paging--c
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 ./exprf...
(gdb) b main
Breakpoint 1 at 0x1134: file mainf.c, line 13.
(gdb) r
Starting program: /home/malex-kali/lab04/exprf
[Thread debugging using libthread_db enabled]
Using host libthread_db library "/lib/x86_64-linux-gnu/libthread_db.so.1".

Breakpoint 1, main (argc=1, argv=0x7fffffffdf38) at mainf.c:13
13 float expr_1 = (((a * b - c) / d) + e * f);
(gdb) ptype a
type = float
(gdb) set var a=3
(gdb) set var b=-6
(gdb) set var c=0
(gdb) set var d=8
(gdb) set var e=10
(gdb) Quit
(gdb) set var f=2
(gdb) p a
$1 = 3
(gdb) next
14 float expr_2 = a - b + c * d;
(gdb) p expr_1
$2 = 17.75
(gdb) next
15 float expr_3 = e * f;
(gdb) p expr_2
$3 = 9
(gdb) next
16 float expr_4 = (c * a - d)/(b + e * f - a);
(gdb) p expr_3
$4 = 20
(gdb) next
17 float result = expr_1 * expr_2 - expr_3 + expr_4;
(gdb) p expr_4
$5 = -0.727272749
(gdb) next
18 return 0;
(gdb) p result

```
$6 = 139.02272
(gdb) q
A debugging session is active.

Inferior 1 [process 10490] will be killed.

Quit anyway? (y or n) y

┌──(malex-kali㉿MA)-[~/lab04]
└─$
```