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ssh kateyq@login.khoury.northeastern.edu 7:51
(gdb) disass
Dump of assembler code for function main:
0x000000000400543 <+0>:      push    %rbp
0x000000000400544 <+1>:      mov     %rsp,%rbp
0x000000000400547 <+4>:      sub     $0x10,%rsp
0x00000000040054b <+8>:      movl    $0x2,-0x4(%rbp)
0x000000000400552 <+15>:     movl    $0x3,-0x8(%rbp)
=> 0x000000000400559 <+22>:     mov     -0x8(%rbp),%edx
0x00000000040055c <+25>:     mov     -0x4(%rbp),%eax
0x00000000040055f <+28>:     mov     %edx,%esi
0x000000000400561 <+30>:     mov     %eax,%edi
0x000000000400563 <+32>:     callq   0x40052d <subtraction>
0x000000000400568 <+37>:     mov     %eax,%esi
0x00000000040056a <+39>:     mov     $0x400610,%edi
0x00000000040056f <+44>:     mov     $0x0,%eax
0x000000000400574 <+49>:     callq   0x400410 <printf@plt>
0x000000000400579 <+54>:     nop
0x00000000040057a <+55>:     leaveq  %eax
0x00000000040057b <+56>:     retq
End of assembler dump.
(gdb) step

Breakpoint 2, subtraction (a=2, b=3) at subtraction.c:5
5      return (a-b);
(gdb) disass
Dump of assembler code for function subtraction:
0x00000000040052d <+0>:      push    %rbp
0x00000000040052e <+1>:      mov     %rsp,%rbp
0x000000000400531 <+4>:      mov     %edi,-0x4(%rbp)
0x000000000400534 <+7>:      mov     %esi,-0x8(%rbp)
=> 0x000000000400537 <+10>:     mov     -0x8(%rbp),%eax
0x00000000040053a <+13>:     mov     -0x4(%rbp),%edx
0x00000000040053d <+16>:     sub     %eax,%edx
0x00000000040053f <+18>:     mov     %edx,%eax
0x000000000400541 <+20>:     pop     %rbp
0x000000000400542 <+21>:     retq
End of assembler dump.
(gdb) next
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There are 2 blocks of assembly code in the screen capture.

The first block is the assembly code for main() function.

The lines:

0x00000000040054b <+8>: movl \$0x2,-0x4(%rbp)

0x000000000400552 <+15>: movl \$0x3,-0x8(%rbp)

are assigning 2 integer values (4 bytes) into 2 variables' addresses, respectively.

Then after the command line instruction "step", the block of assembly code is for the subtraction() function.

The lines:

0x000000000400531 <+4>: mov %edi,-0x4(%rbp)

0x000000000400534 <+7>: mov %esi,-0x8(%rbp)

are taking in the parameters.

The lines:

0x000000000400537 <+10>: mov -0x8(%rbp),%eax

0x00000000040053a <+13>: mov -0x4(%rbp),%edx

are storing the given parameters to the local variables.

The line:

0x00000000040053d <+16>: sub %eax,%edx

is to perform the subtraction calculation.