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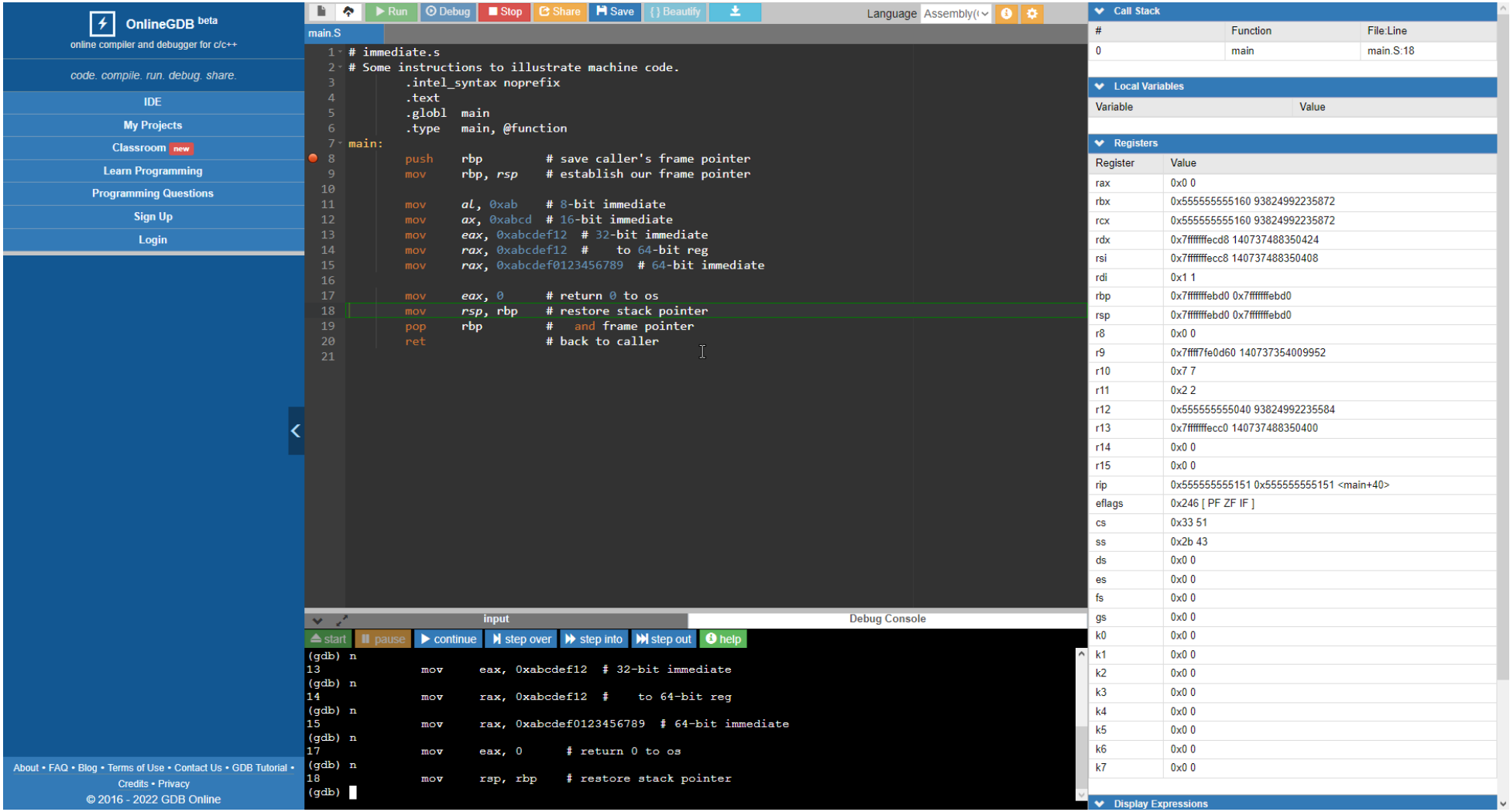
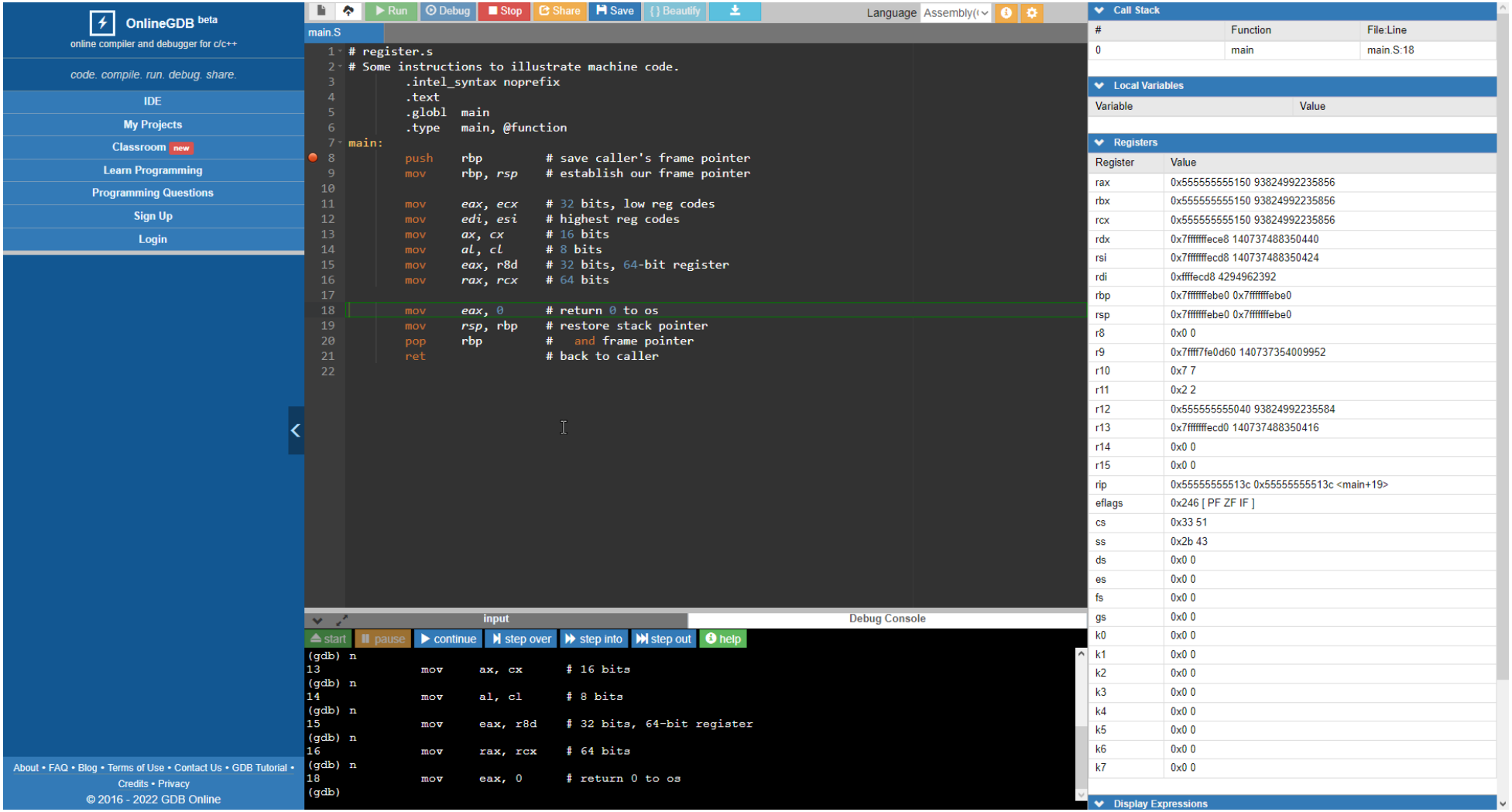
1. immediate.s



2. register.s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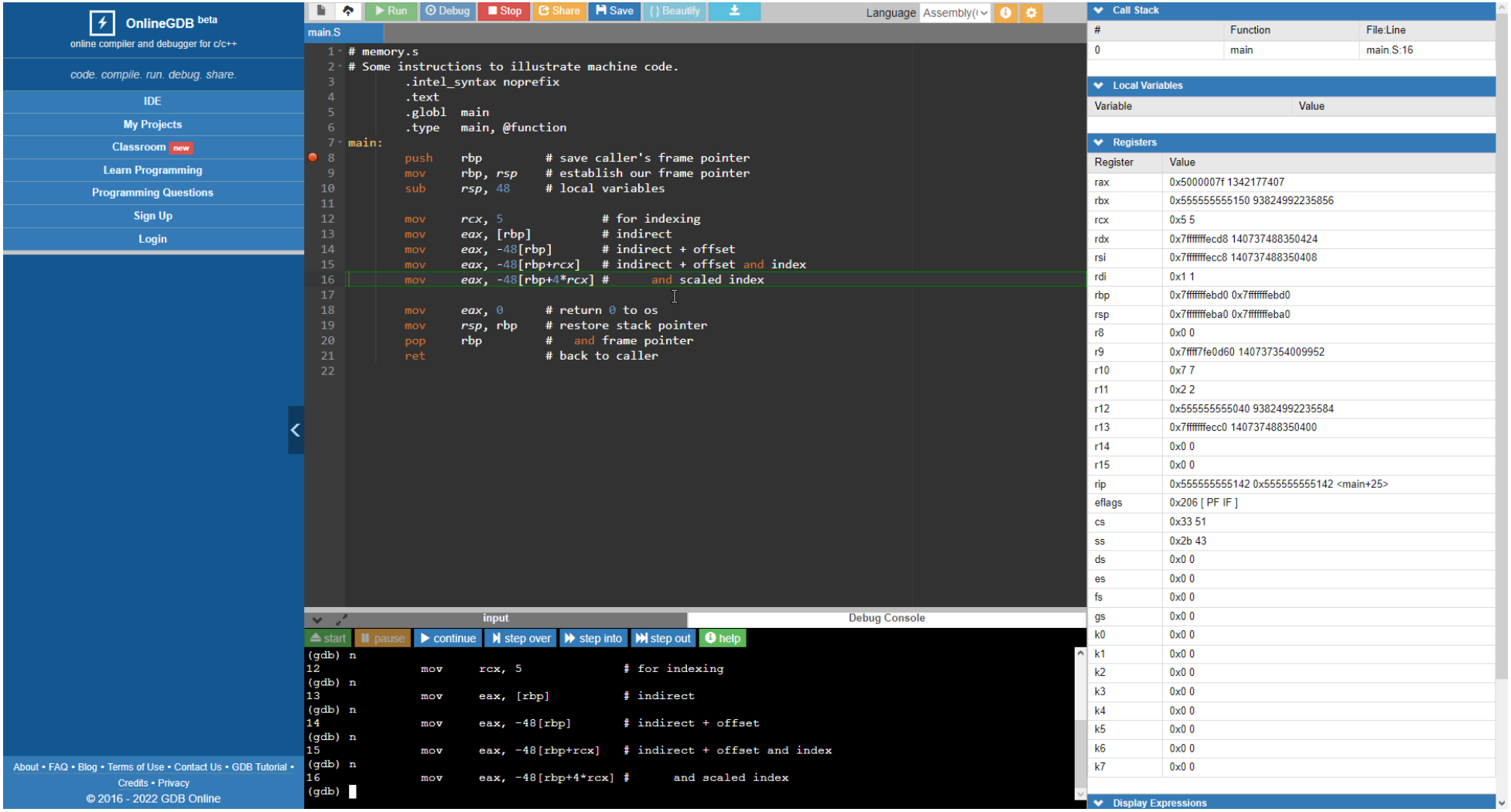
{ } Beautify
Language
Assembly(
main.S
1 # register.s
2 # Some instructions to illustrate machine code.
3 .intel_syntax noprefix
4 .text
5 .globl main
6 .type main, @function
7 main:
8 push rbp # save caller's frame pointer
9 mov rbp, rsp # establish our frame pointer
10
11 mov eax, ecx # 32 bits, low reg codes
12 mov edi, esi # highest reg codes
13 mov ax, cx # 16 bits
14 mov al, cl # 8 bits
15 mov eax, r8d # 32 bits, 64-bit register
16 mov rax, rcx # 64 bits
17
18 mov eax, 0 # return 0 to os
19 mov rsp, rbp # restore stack pointer
20 pop rbp # and frame pointer
21 ret # back to caller
22
input
Debug Console
start
pause
continue
step over
step into
step out
help
(gdb) n
13 mov ax, cx # 16 bits
(gdb) n
14 mov al, cl # 8 bits
(gdb) n
15 mov eax, r8d # 32 bits, 64-bit register
(gdb) n
16 mov rax, rcx # 64 bits
(gdb) n
18 mov eax, 0 # return 0 to os
(gdb)
Call Stack
Function File:Line
0 main main.S:18
Local Variables
Variable Value
Registers
Register Value
rax 0x555555555150 93824992235856
rbx 0x555555555150 93824992235856
rcx 0x555555555150 93824992235856
rdx 0x7fffffffece8 140737488350440
rsi 0x7fffffffecd8 140737488350424
rdi 0xffffecd8 4294962392
rbp 0x7fffffffebe0 0x7fffffffebe0
rsp 0x7fffffffebe0 0x7fffffffebe0
r8 0x0 0
r9 0x7ffff7fe0d60 140737354009952
r10 0x7 7
r11 0x2 2
r12 0x555555555040 93824992235584
r13 0x7fffffffecd0 140737488350416
r14 0x0 0
r15 0x0 0
rip 0x55555555513c 0x55555555513c <main+19>
eflags 0x246 [PF ZF IF]
cs 0x33 51
ss 0x2b 43
ds 0x0 0
es 0x0 0
fs 0x0 0
gs 0x0 0
k0 0x0 0
k1 0x0 0
k2 0x0 0
k3 0x0 0
k4 0x0 0
k5 0x0 0
k6 0x0 0
k7 0x0 0
Display Expressions

3. memory.s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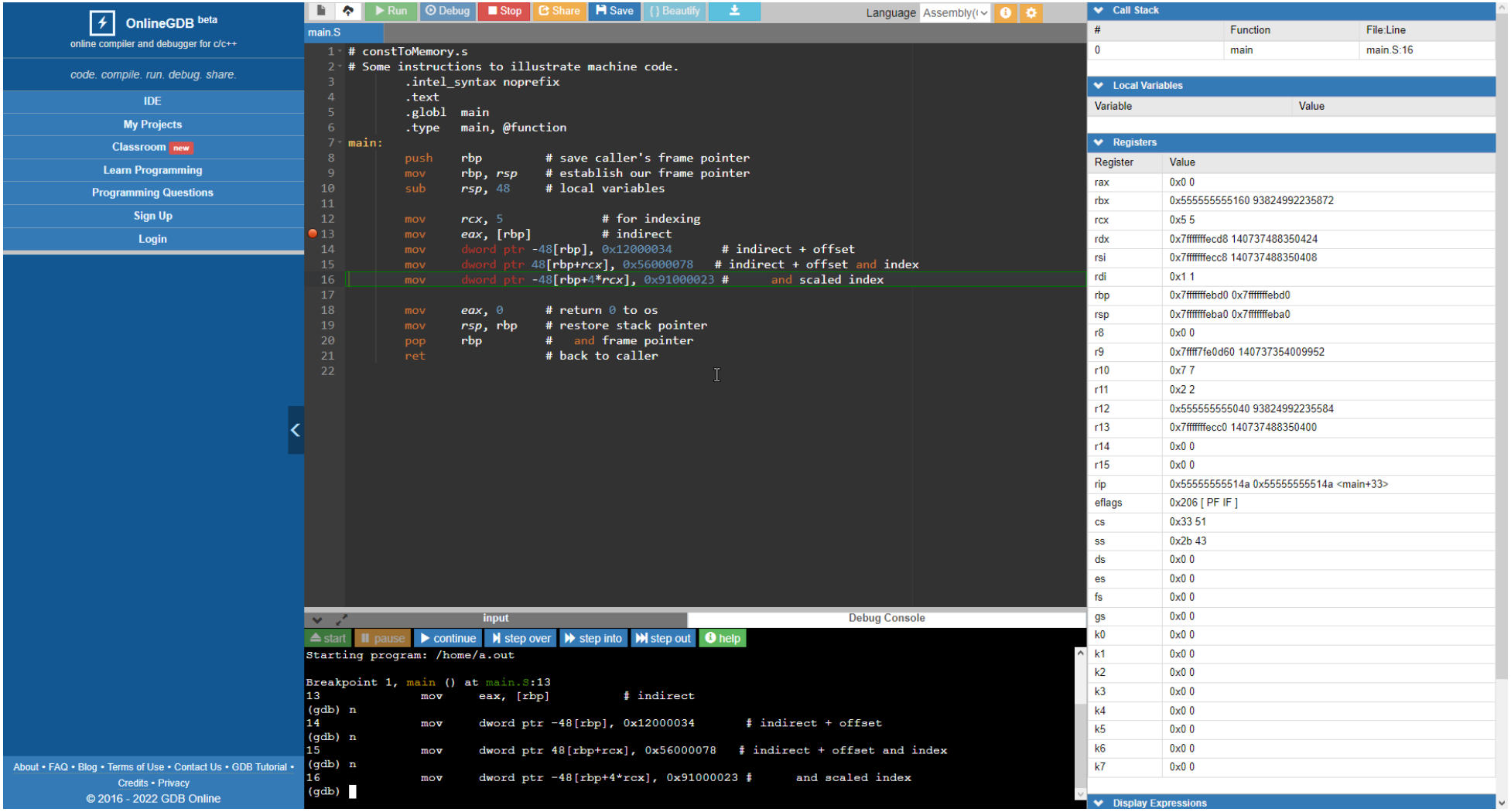
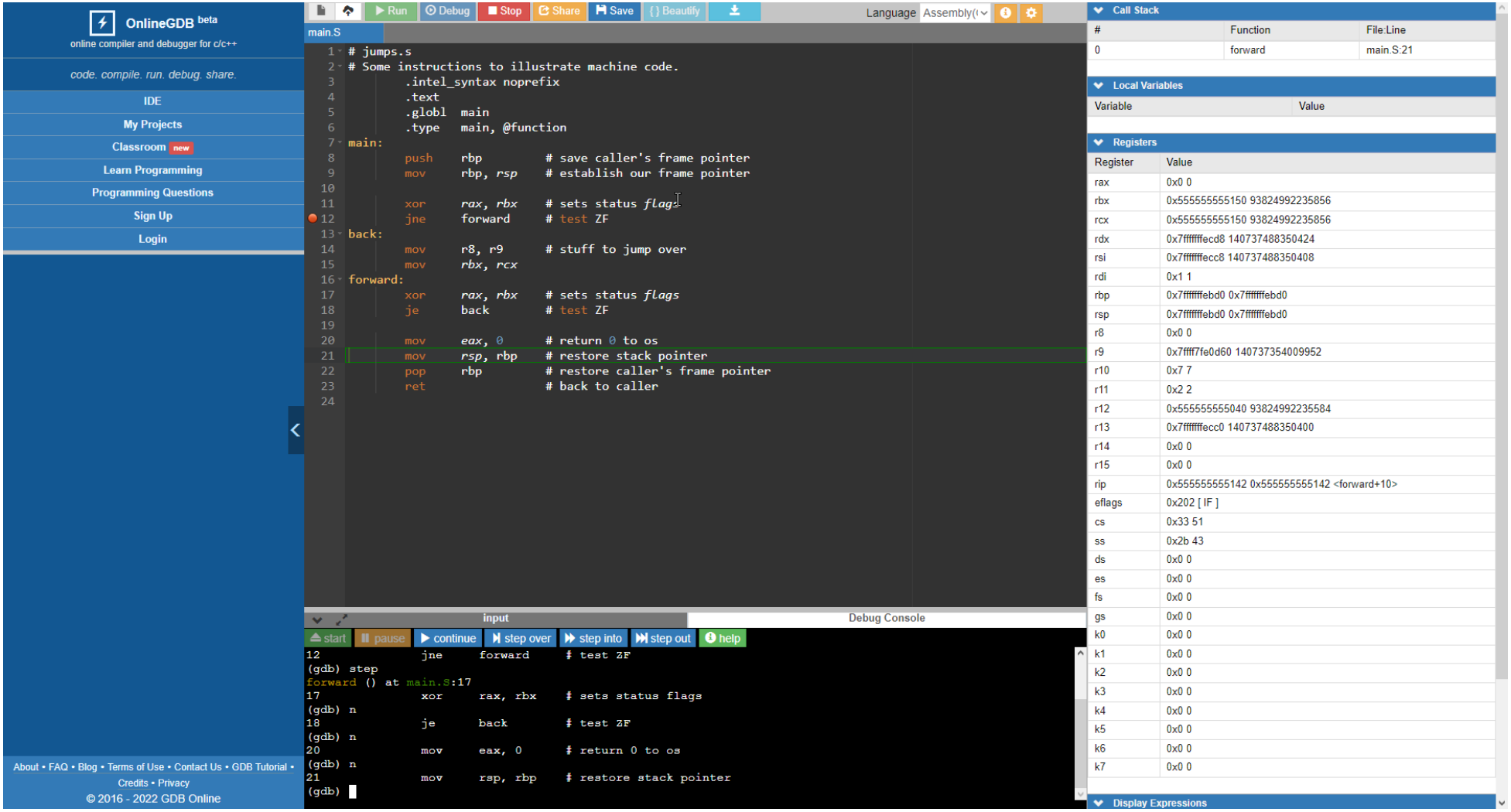
Save
{ } Beautify
Language
Assembly(
main.S
1 # memory.s
2 # Some instructions to illustrate machine code.
3 .intel_syntax noprefix
4 .text
5 .globl main
6 .type main, @function
7 main:
8 push rbp # save caller's frame pointer
9 mov rbp, rsp # establish our frame pointer
10 sub rsp, 48 # local variables
11
12 mov rcx, 5 # for indexing
13 mov eax, [rbp] # indirect
14 mov eax, -48[rbp] # indirect + offset
15 mov eax, -48[rbp+rcx] # indirect + offset and index
16 mov eax, -48[rbp+4*rcx] # and scaled index
17
18 mov eax, 0 # return 0 to os
19 mov rsp, rbp # restore stack pointer
20 pop rbp # and frame pointer
21 ret # back to caller
22
input
Debug Console
start
pause
continue
step over
step into
step out
help
(gdb) n
12 mov rcx, 5 # for indexing
(gdb) n
13 mov eax, [rbp] # indirect
(gdb) n
14 mov eax, -48[rbp] # indirect + offset
(gdb) n
15 mov eax, -48[rbp+rcx] # indirect + offset and index
(gdb) n
16 mov eax, -48[rbp+4*rcx] # and scaled index
(gdb)
Call Stack
Function File:Line
0 main main.S:16
Local Variables
Variable Value
Registers
Register Value
rax 0x5000007f 1342177407
rbx 0x555555555150 93824992235856
rcx 0x5 5
rdx 0x7fffffffecd8 140737488350424
rsi 0x7fffffffecc8 140737488350408
rdi 0x1 1
rbp 0x7fffffffebd0 0x7fffffffebd0
rsp 0x7fffffffeba0 0x7fffffffeba0
r8 0x0 0
r9 0x7ffff7fe0d60 140737354009952
r10 0x7 7
r11 0x2 2
r12 0x555555555040 93824992235584
r13 0x7fffffffecc0 140737488350400
r14 0x0 0
r15 0x0 0
rip 0x555555555142 0x555555555142 <main+25>
eflags 0x206 [PF IF]
cs 0x33 51
ss 0x2b 43
ds 0x0 0
es 0x0 0
fs 0x0 0
gs 0x0 0
k0 0x0 0
k1 0x0 0
k2 0x0 0
k3 0x0 0
k4 0x0 0
k5 0x0 0
k6 0x0 0
k7 0x0 0
Display Expressions

4. constToMemory.s



5. jumps.s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Run
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{ } Beautify
Language
Assembly(
main.S
1 # jumps.s
2 # Some instructions to illustrate machine code.
3 .intel_syntax noprefix
4 .text
5 .globl main
6 .type main, @function
7 main:
8 push rbp # save caller's frame pointer
9 mov rbp, rsp # establish our frame pointer
10
11 xor rax, rbx # sets status flags
12 jne forward # test ZF
13 back:
14 mov r8, r9 # stuff to jump over
15 mov rbx, rcx
16 forward:
17 xor rax, rbx # sets status flags
18 je back # test ZF
19
20 mov eax, 0 # return 0 to os
21 mov rsp, rbp # restore stack pointer
22 pop rbp # restore caller's frame pointer
23 ret # back to caller
24
input
Debug Console
start
pause
continue
step over
step into
step out
help
12 jne forward # test ZF
(gdb) step
forward () at main.S:17
17 xor rax, rbx # sets status flags
(gdb) n
18 je back # test ZF
(gdb) n
20 mov eax, 0 # return 0 to os
(gdb) n
21 mov rsp, rbp # restore stack pointer
(gdb)
Call Stack
Function File:Line
0 forward main.S:21
Local Variables
Variable Value
Registers
Register Value
rax 0x0 0
rbx 0x555555555150 93824992235856
rcx 0x555555555150 93824992235856
rdx 0x7fffffffecd8 140737488350424
rsi 0x7fffffffecc8 140737488350408
rdi 0x1 1
rbp 0x7fffffffebd0 0x7fffffffebd0
rsp 0x7fffffffebd0 0x7fffffffebd0
r8 0x0 0
r9 0x7ffff7fe0d60 140737354009952
r10 0x7 7
r11 0x2 2
r12 0x555555555040 93824992235584
r13 0x7fffffffecc0 140737488350400
r14 0x0 0
r15 0x0 0
rip 0x555555555142 0x555555555142 <forward+10>
eflags 0x202 [IF]
cs 0x33 51
ss 0x2b 43
ds 0x0 0
es 0x0 0
fs 0x0 0
gs 0x0 0
k0 0x0 0
k1 0x0 0
k2 0x0 0
k3 0x0 0
k4 0x0 0
k5 0x0 0
k6 0x0 0
k7 0x0 0
Display Expressions