```cpp
#include <iostream>
using namespace std;

int main() {
        int x = 0, y = 0, z = 0;
        x = 9;
        y = 5;
        z = x + y;
        cout << z << endl;
}
```

X	O	
O	X	
O		X

```asm
            .local    _ZStL8__ioinit
            .comm     _ZStL8__ioinit,1,1
            .globl    main
            .type     main, @function
main:
.LFB1731:
            .cfi_startproc
            endbr64
            pushq     %rbp
            .cfi_def_cfa_offset 16
            .cfi_offset 6, -16
            movq      %rsp, %rbp
            .cfi_def_cfa_register 6
            subq      $16, %rsp
            movl      $0, -12(%rbp)
            movl      $0, -8(%rbp)
            movl      $0, -4(%rbp)
            movl      $9, -12(%rbp)
            movl      $5, -8(%rbp)
            movl      -12(%rbp), %edx
            movl      -8(%rbp), %eax
            addl      %edx, %eax
            movl      %eax, -4(%rbp)
            movl      -4(%rbp), %eax
            movl      %eax, %esi
            leaq      _ZSt4cout(%rip), %rax
            movq      %rax, %rdi
            call      _ZNSolsEi@PLT
            movq      _ZSt4endlIcSt11char_traitsIcEERSt13basic_ostreamIT_T0_ES6_@GOTPCREL(%rip), %rdx
            movq      %rdx, %rsi
            movq      %rax, %rdi
            call      _ZNSolsEPFRSoS_E@PLT
            movl      $0, %eax
            leave
            .cfi_def_cfa 7, 8
            ret
            .cfi_endproc
.LFE1731:
            .size     main, .-main
            .type     _Z41__static_initialization_and_destruction_0ii, @function
_Z41__static_initialization_and_destruction_0ii:
.LFB2231:
```

```
        .local   _ZStL8__ioinit
        .comm    _ZStL8__ioinit,1,1
        .globl   main
        .type    main, @function
main:
.LFB1731:
        .cfi_startproc
        endbr64
        pushq   %rbp
        .cfi_def_cfa_offset 16
        .cfi_offset 6, -16
        movq    %rsp, %rbp
        .cfi_def_cfa_register 6
        subq    $16, %rsp
        movl    $0, -12(%rbp)
        movl    $0, -8(%rbp)
        movl    $0, -4(%rbp)
        movl    $9, -12(%rbp)
        movl    $5, -8(%rbp)
        movl    -12(%rbp), %edx
        movl    -8(%rbp), %eax
        subl    %edx, %eax
        movl    %eax, -4(%rbp)
        movl    -4(%rbp), %eax
        movl    %eax, %esi
        leaq    _ZSt4cout(%rip), %rax
        movq    %rax, %rdi
        call    _ZNSolsEi@PLT
        movq    _ZSt4endlIcSt11char_traitsIcEERSt13basic_ostreamIT_T0_ES6_@GOTPCREL(%rip), %rdx
        movq    %rdx, %rsi
        movq    %rax, %rdi
        call    _ZNSolsEPFRSoS_E@PLT
        movl    $0, %eax
        leave
        .cfi_def_cfa 7, 8
        ret
        .cfi_endproc
.LFE1731:
        .size    main, .-main
        .type    _Z41__static_initialization_and_destruction_0ii, @function
_Z41__static_initialization_and_destruction_0ii:
.LFB2231:
```

```
'$Recycle.Bin'            'G7vD E-Manual_V1.0.pdf'  'Program Files (x86)'   Windows          swapfile.sys
'$WinREAgent'              Intel                     ProgramData            appverifUI.dll   vfcompat.dll
 PerfLogs                  MinGW                     Recovery               bison            vpckw
'Documents and Settings'   OneDriveTemp              ShipID.txt             hiberfil.sys
 DumpStack.log.tmp         PerfLogs                 'System Volume Information'  pagefile.sys
'G5vD E-Manual_V1.0.pdf'  'Program Files'            Users                                   programming
dataflex@DESKTOP-Q4B6UII:/mnt/c$ mkdir asm
dataflex@DESKTOP-Q4B6UII:/mnt/c$ ls
ls: cannot access 'DumpStack.log.tmp': Permission denied
ls: cannot access 'hiberfil.sys': Permission denied
ls: cannot access 'pagefile.sys': Permission denied
ls: cannot access 'swapfile.sys': Permission denied
'$Recycle.Bin'            'G7vD E-Manual_V1.0.pdf'  'Program Files (x86)'   Windows          programming
'$WinREAgent'              Intel                     ProgramData            appverifUI.dll   swapfile.sys
 PerfLogs                  MinGW                     Recovery               bison            vfcompat.dll
'Documents and Settings'   OneDriveTemp              ShipID.txt             hiberfil.sys     vpckw
 DumpStack.log.tmp         PerfLogs                 'System Volume Information'  pagefile.sys
'G5vD E-Manual_V1.0.pdf'  'Program Files'            Users
dataflex@DESKTOP-Q4B6UII:/mnt/c$ cd asm
dataflex@DESKTOP-Q4B6UII:/mnt/c/asm$ mkdir lab-0
dataflex@DESKTOP-Q4B6UII:/mnt/c/asm$ cd lab-0/
dataflex@DESKTOP-Q4B6UII:/mnt/c/asm/lab-0$ vim HW.cpp
dataflex@DESKTOP-Q4B6UII:/mnt/c/asm/lab-0$ g++ HW.cpp
dataflex@DESKTOP-Q4B6UII:/mnt/c/asm/lab-0$ ./a.out
Hello, world!
dataflex@DESKTOP-Q4B6UII:/mnt/c/asm/lab-0$ g++ HW.cpp -o HW.s -S
dataflex@DESKTOP-Q4B6UII:/mnt/c/asm/lab-0$ ls
HW.cpp  HW.s  a.out
dataflex@DESKTOP-Q4B6UII:/mnt/c/asm/lab-0$ vim HW.s
dataflex@DESKTOP-Q4B6UII:/mnt/c/asm/lab-0$ vim arithmetic.cpp
dataflex@DESKTOP-Q4B6UII:/mnt/c/asm/lab-0$ g++ arithmetic.cpp
dataflex@DESKTOP-Q4B6UII:/mnt/c/asm/lab-0$ ./a.out
14
dataflex@DESKTOP-Q4B6UII:/mnt/c/asm/lab-0$ g++ arithmetic.cpp -o arithmetic.s -S
dataflex@DESKTOP-Q4B6UII:/mnt/c/asm/lab-0$ vim arithmetic.s
dataflex@DESKTOP-Q4B6UII:/mnt/c/asm/lab-0$ g++ arithmetic.s
arithmetic.cpp  arithmetic.s
dataflex@DESKTOP-Q4B6UII:/mnt/c/asm/lab-0$ g++ arithmetic.s
dataflex@DESKTOP-Q4B6UII:/mnt/c/asm/lab-0$ ./a.out
-4
dataflex@DESKTOP-Q4B6UII:/mnt/c/asm/lab-0$
```