

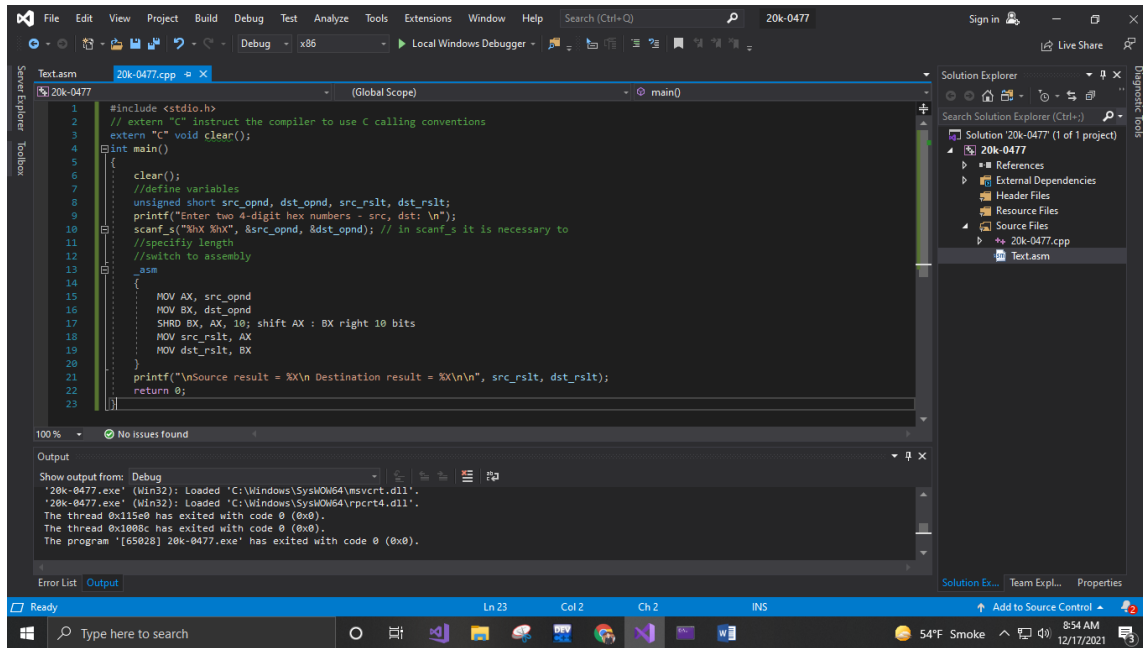
COAL LAB TASK 12

MOHAMMAD BASIL ALI KHAN

20K-0477

Example:

- CPP code

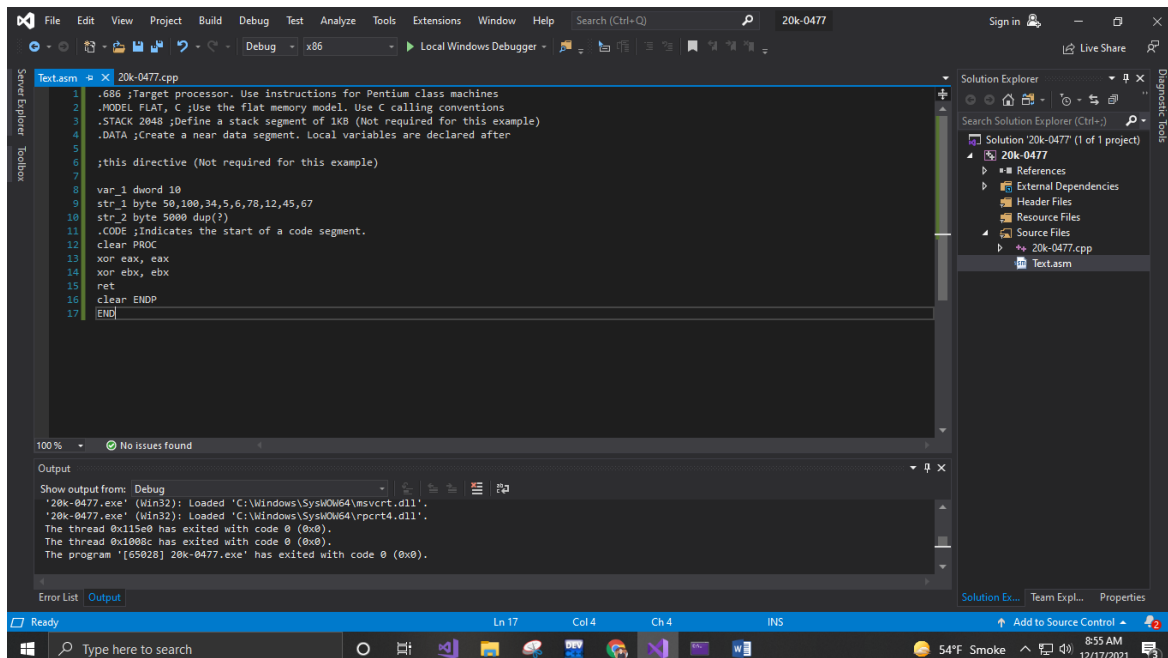


```
1 #include <stdio.h>
2 // extern "C" instruct the compiler to use C calling conventions
3 extern "C" void clear();
4 int main()
5 {
6     clear();
7     //define variables
8     unsigned short src_opnd, dst_opnd, src_rslt, dst_rslt;
9     printf("Enter two 4-digit hex numbers - src, dst: \n");
10    scanf_s("%hX %hX", &src_opnd, &dst_opnd); // in scanf_s it is necessary to
11    //specify length
12    //switch to assembly
13    __asm
14    {
15        MOV AX, src_opnd
16        MOV BX, dst_opnd
17        SHRD BX, AX, 10; shift AX : BX right 10 bits
18        MOV src_rslt, AX
19        MOV dst_rslt, BX
20    }
21    printf("\nSource result = %X\n Destination result = %X\n\n", src_rslt, dst_rslt);
22    return 0;
23 }
```

Output

```
Show output from: Debug
'20k-0477.exe' (Win32): Loaded 'C:\Windows\System32\msvcrt.dll'.
'20k-0477.exe' (Win32): Loaded 'C:\Windows\System32\user32.dll'.
The thread 0x115e0 has exited with code 0 (0x0).
The thread 0x1008c has exited with code 0 (0x0).
The program '[65020] 20k-0477.exe' has exited with code 0 (0x0).
```

- ASM code

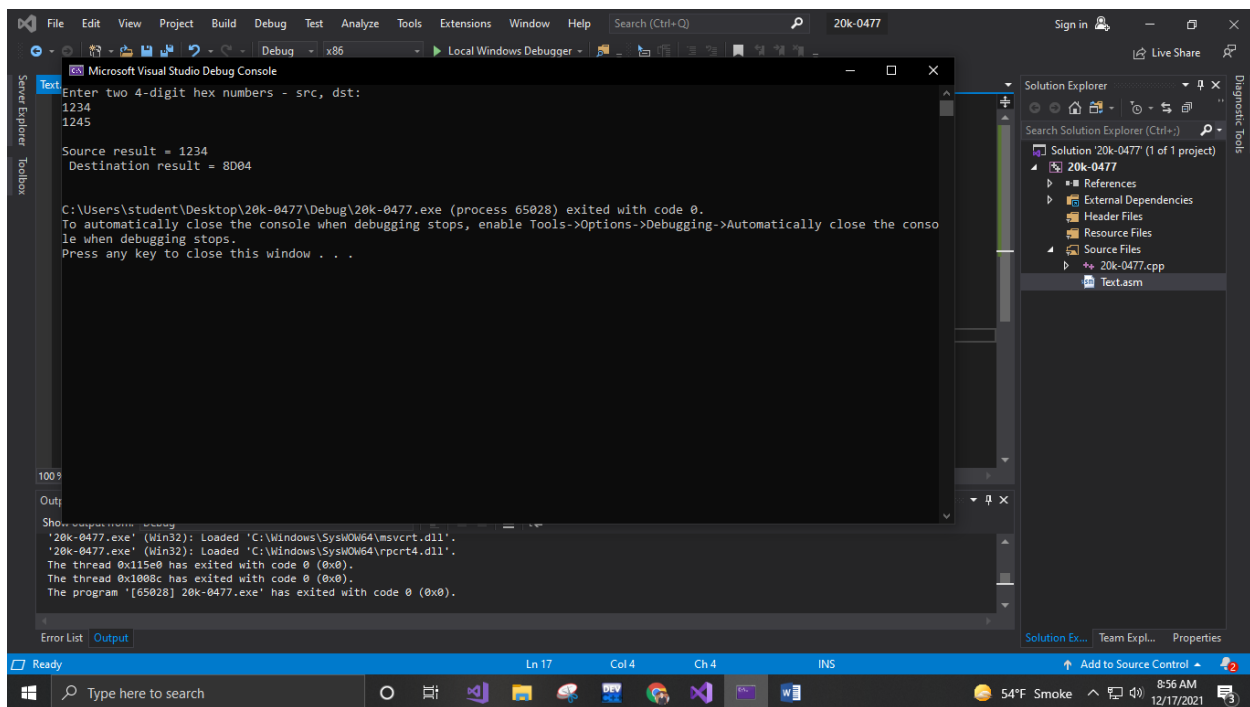


```
1 .686 ;Target processor. Use instructions for Pentium class machines
2 .MODEL FLAT, C ;Use the flat memory model. Use C calling conventions
3 .STACK 2048 ;Define a stack segment of 1KB (Not required for this example)
4 .DATA ;Create a near data segment. Local variables are declared after
5
6 ;this directive (Not required for this example)
7
8 var_1 dword 10
9 str_1 byte 50,100,34,5,6,78,12,45,67
10 str_2 byte 5000 dup(?)
11 .CODE ;indicates the start of a code segment.
12 clear PROC
13 xor eax, eax
14 xor ebx, ebx
15 ret
16 clear ENDP
17 END
```

Output

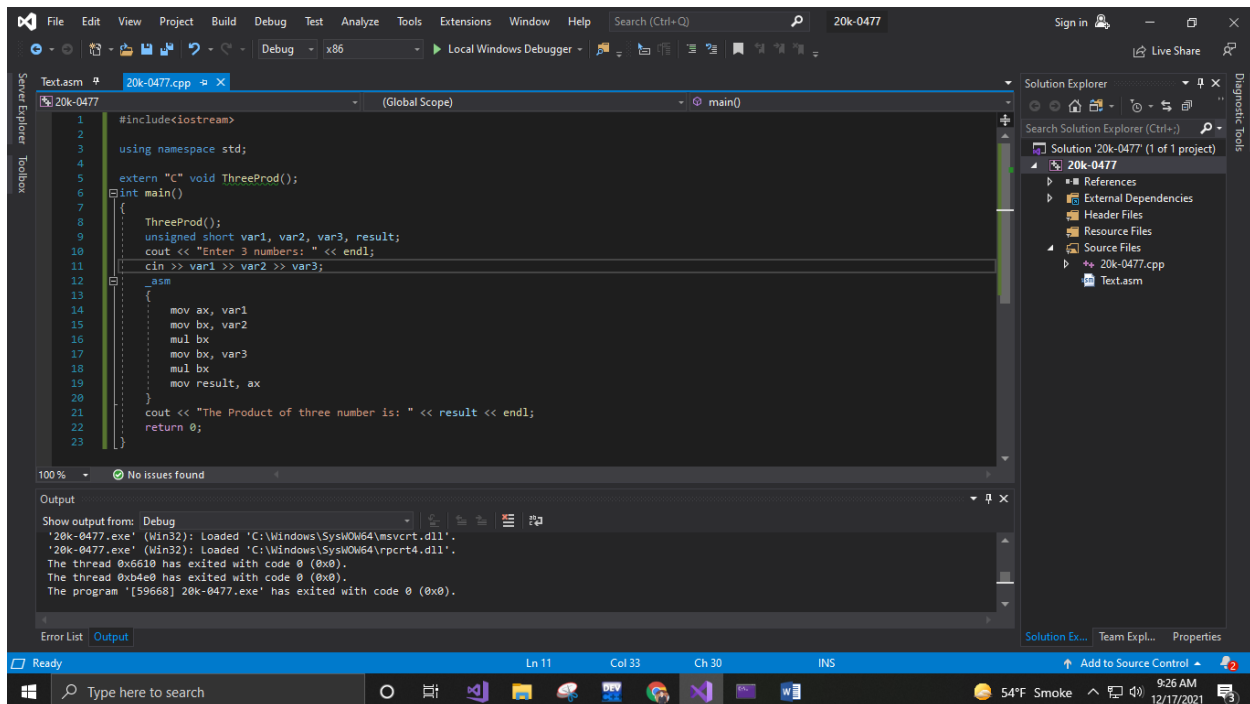
```
Show output from: Debug
'20k-0477.exe' (Win32): Loaded 'C:\Windows\System32\msvcrt.dll'.
'20k-0477.exe' (Win32): Loaded 'C:\Windows\System32\user32.dll'.
The thread 0x115e0 has exited with code 0 (0x0).
The thread 0x1008c has exited with code 0 (0x0).
The program '[65020] 20k-0477.exe' has exited with code 0 (0x0).
```

- Output

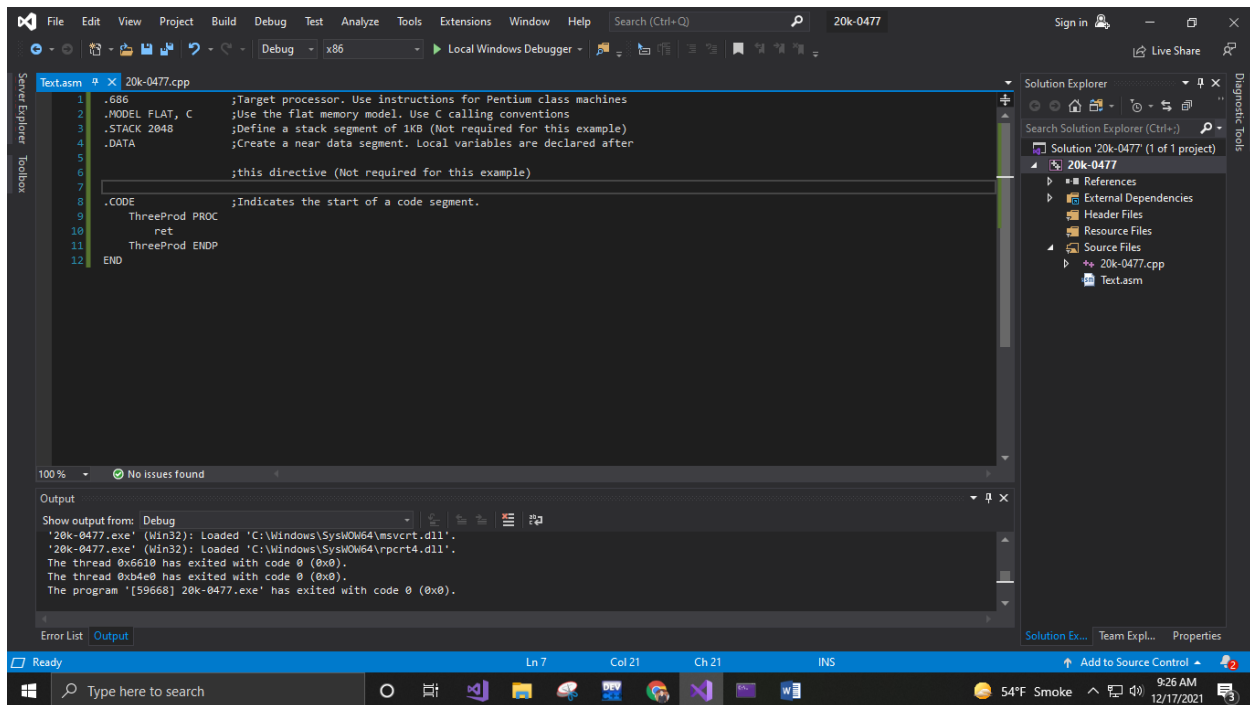


Task#01:

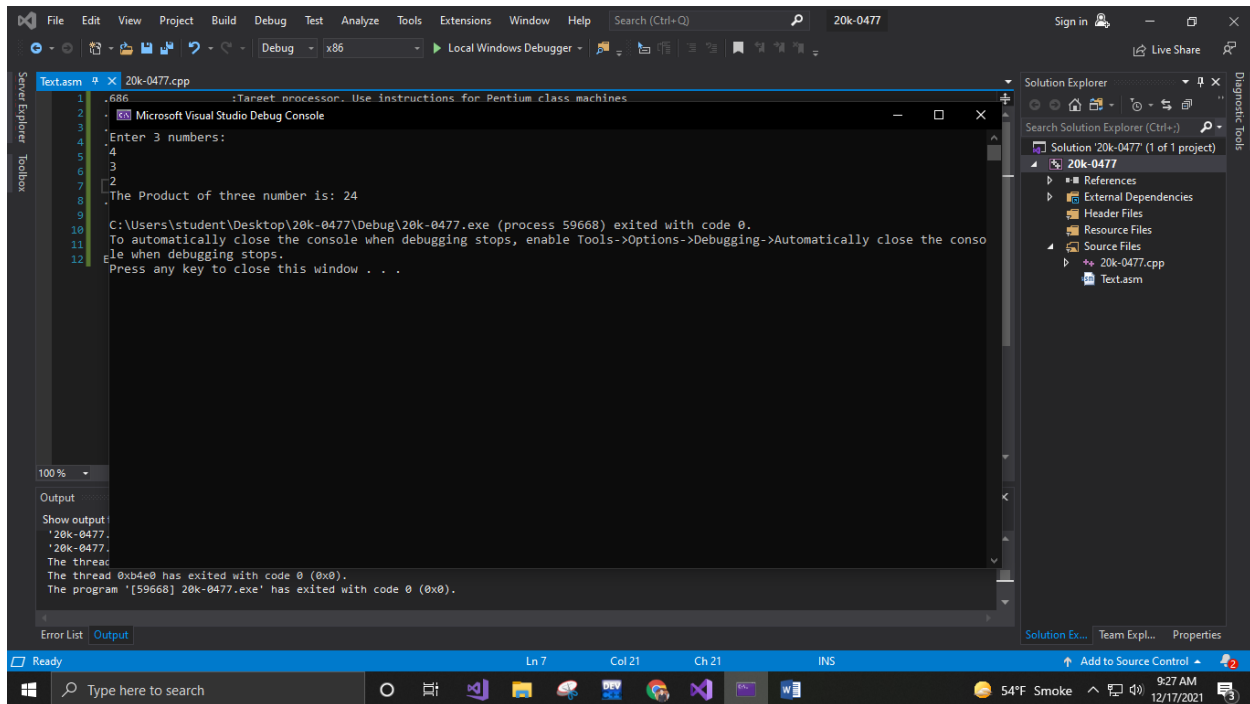
- CPP file



- **ASM File**

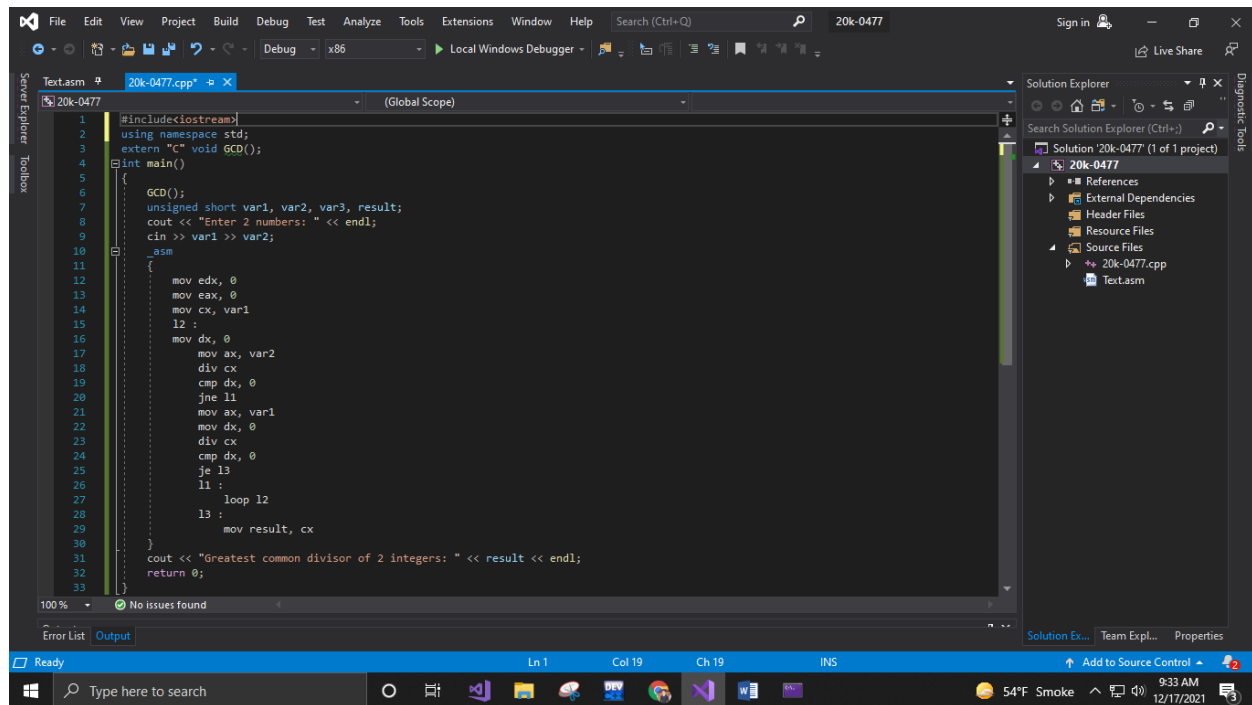


- **Output**

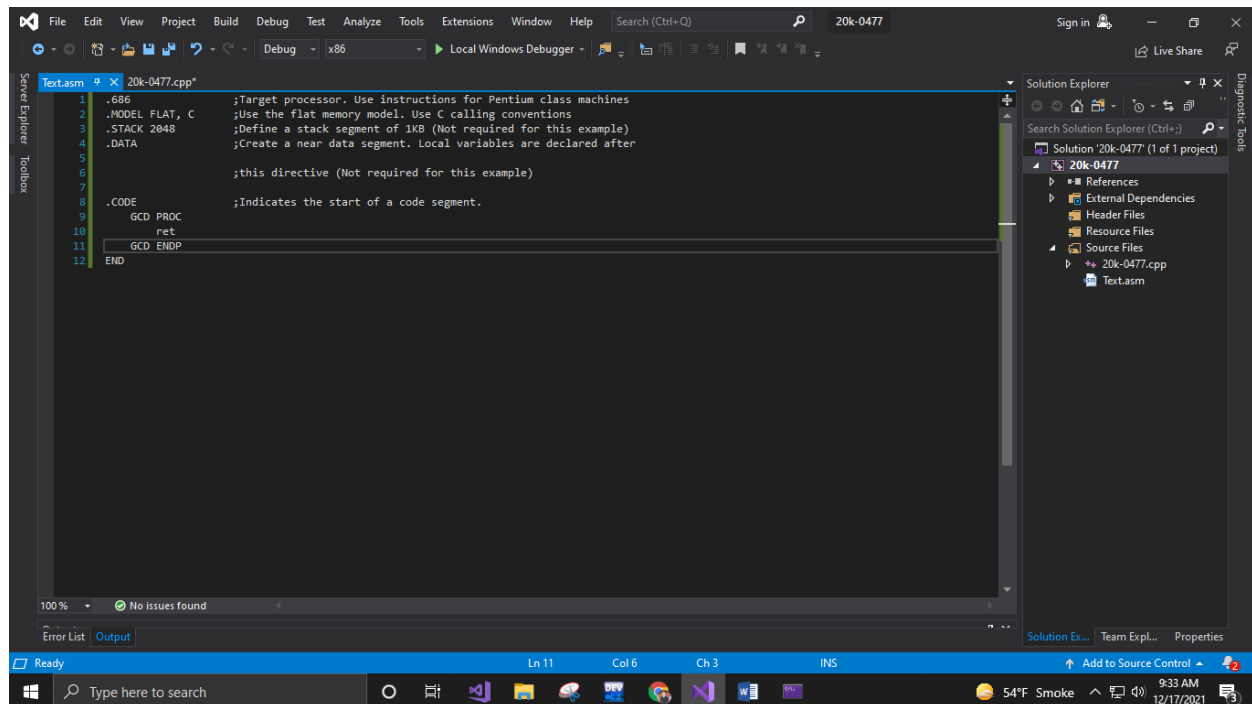


Task#02:

- **CPP File**



- **ASM File**



- **Output**

