Stephen
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2/6/20

HW4

1. a.
```
.data
valA  BYTE 2
.code
    mov eax, valA
    sub eax, 3          ; setting sign flag
    add eax, 3          ; resetting sign flag
```

b.
```
.data
valA  SBYTE -128
valB  SBYTE 127
.code
    neg valA            ; setting overflow flag
    neg valB            ; resetting overflow flag
```

c.
```
.data
valA  BYTE 2
.code
    mov eax, valA
    sub eax, 2          ; setting zero flag
    add eax, 2          ; resetting zero flag
```

D. 8 = 1000
   5 = + 0101
   13 = 1101 ← odd # of 1 bits so

Parity Flag = 0

2. NOT SURE IF "odd elements of the array" REFERS TO INEX POSITION IN ARRAY OR DECIMAL EQUIVALENT??

ASSUMING INDEX POSITION

```
mov AX, Alpha
add AX, [Alpha+1]      ; moving index 1
add AX, [Alpha+3]      ; adding index 3
add AX, [Alpha+5]      ; adding index 5
mov SUM, AX            ; moving total into SUM
```

ASSUMING DECIMAL EQUIVALENT

```
mov AX, Alpha
add AX, [Alpha+1]      ; moving 2Bh = 43
add AX, [Alpha+5]      ; moving 6D03 = 27907
mov SUM, AX            ; moving total into SUM
```

3. a. AX = 4411h

b. EAX = 76564321h

c. AX = B4C4h

d. AX = 0000h

e. AX = 0000h

4. TYPE myarray = 16 bytes

lengthof myarray = 8

size of myarray = 16(8) = 128

$\boxed{ax = 128}$

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HW4 (cont.)

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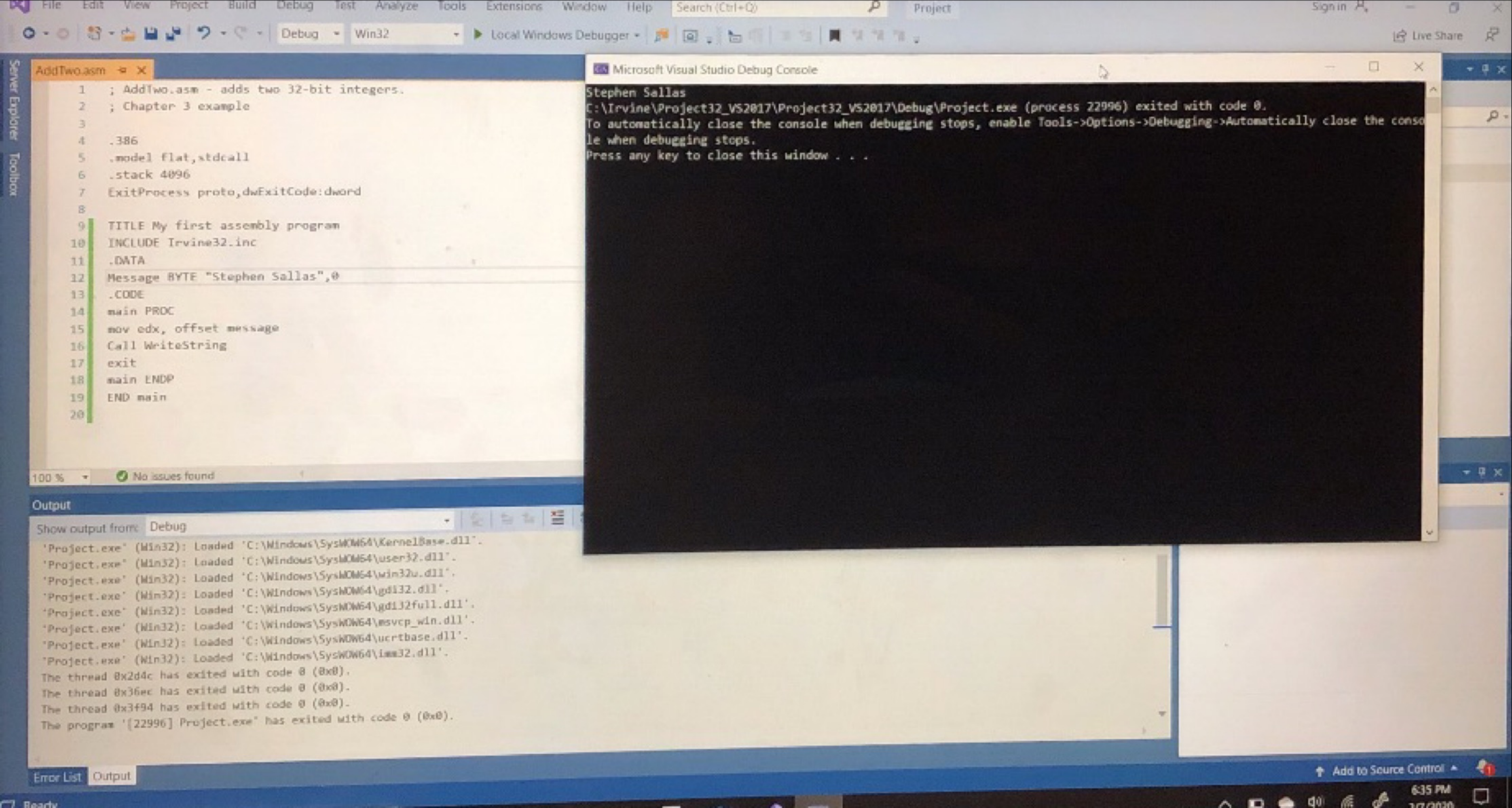
5. a. EAX = FFFFB44Ch
   b. EDX = FFFFFF4Ch
   c. CX = FFB4h
   d. EAX = 0000CD23h
   e. EDX = 00000023h
   f. CX = 00CDh

6.

```
move ax, var2        ; ax = 1000h
move ax, [var2+4]    ; ax = 3000h
move ax, var3        ; ax = -21 or FFEBh
move ax, [var3-2]    ; ax = -21 or FFEBh
```



```
; AddTwo.asm - adds two 32-bit integers.
; Chapter 3 example

.386
.model flat,stdcall
.stack 4096
ExitProcess proto,dwExitCode:dword

TITLE My first assembly program
INCLUDE Irvine32.inc
.DATA
Message BYTE "Stephen Sallas",0
.CODE
main PROC
mov edx, offset message
Call WriteString
exit
main ENDP
END main
```

```
Stephen Sallas
C:\Irvine\Project32_VS2017\Project32_VS2017\Debug\Project.exe (process 22996) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the conso
le when debugging stops.
Press any key to close this window . . .
```

```
'Project.exe' (Win32): Loaded 'C:\Windows\SysWOW64\KernelBase.dll'.
'Project.exe' (Win32): Loaded 'C:\Windows\SysWOW64\user32.dll'.
'Project.exe' (Win32): Loaded 'C:\Windows\SysWOW64\win32u.dll'.
'Project.exe' (Win32): Loaded 'C:\Windows\SysWOW64\gdi32.dll'.
'Project.exe' (Win32): Loaded 'C:\Windows\SysWOW64\gdi32full.dll'.
'Project.exe' (Win32): Loaded 'C:\Windows\SysWOW64\msvcp_win.dll'.
'Project.exe' (Win32): Loaded 'C:\Windows\SysWOW64\ucrtbase.dll'.
'Project.exe' (Win32): Loaded 'C:\Windows\SysWOW64\imm32.dll'.
The thread 0x2d4c has exited with code 0 (0x0).
The thread 0x36ec has exited with code 0 (0x0).
The thread 0x3f94 has exited with code 0 (0x0).
The program '[22996] Project.exe' has exited with code 0 (0x0).
```