



20F-0292_BCS-4E_COAL LAB 7

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TASK 1:

```
; Author:
; Program Name:
; Program Description:
; Date

INCLUDE Irvine32.inc
.data
msg1 BYTE "Enter first number: ",0
msg2 BYTE "Enter second number: ",0
msg3 BYTE "Subtraction of two numbers is: ",0
var1 DWORD ?
var2 DWORD ?
.code
main PROC
    mov edx,offset msg1
    call WriteString
    call ReadInt
    mov eax,var1

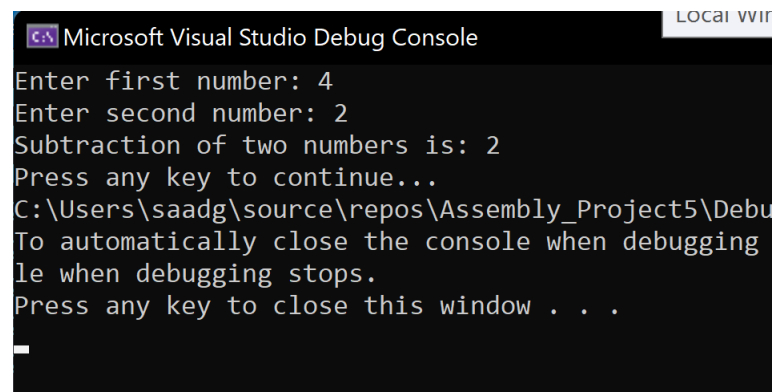
    mov edx,offset msg2
    call WriteString
    call ReadInt
    mov ebx,var2

    mov edx,offset msg3
    call WriteString

    call SubtractOf
    call WriteDec
    call crlf
    call WaitMsg
    exit
main ENDP
SubtractOf PROC
    sub eax,ebx
    ret
SubtractOf ENDP

END main
```

OUTPUT:

A screenshot of the Microsoft Visual Studio Debug Console window. The window has a title bar that says "Microsoft Visual Studio Debug Console" and a tab labeled "Local vvir". The console output shows the program's execution: "Enter first number: 4", "Enter second number: 2", "Subtraction of two numbers is: 2", "Press any key to continue...", and a file path "C:\Users\saadg\source\repos\Assembly_Project5\Debu". Below the file path, there is a message: "To automatically close the console when debugging le when debugging stops." and "Press any key to close this window . . .". A cursor is visible at the bottom of the console window.

```
Microsoft Visual Studio Debug Console
Enter first number: 4
Enter second number: 2
Subtraction of two numbers is: 2
Press any key to continue...
C:\Users\saadg\source\repos\Assembly_Project5\Debu
To automatically close the console when debugging
le when debugging stops.
Press any key to close this window . . .
```

```
Microsoft Visual Studio Debug Console
Enter first number: 12
Enter second number: 6
Subtraction of two numbers is: 6
Press any key to continue...
C:\Users\saadg\source\repos\Assembly_Project
To automatically close the console when debu
le when debugging stops.
Press any key to close this window . . .
_
```

TASK 2:

`INCLUDE Irvine32.inc`

```
.data
    arr dword 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
.code
main PROC

    mov ecx, lengthof arr
    mov esi, offset arr
    call display
    call crlf
    call WaitMsg

    exit
main ENDP
display PROC
    push esi
    push ecx

    L1:
        mov eax, [esi]
        call writedec

        call crlf

        add esi, type dword
        loop L1
    pop ecx
    pop esi
    ret
display ENDP

END main
```

OUTPUT:

```
Microsoft Visual Studio Debug Console
Apply Code Chan

1
2
3
4
5
6
7
8
9
10

Press any key to continue...
C:\Users\saadg\source\repos\Assembly_Project5\Debug\Assemb
To automatically close the console when debugging stops, e
le when debugging stops.
Press any key to close this window . . .
```

TASK 3:

`INCLUDE Irvine32.inc`

```
.data
    msg1 byte "Array 1:      ", 0
    msg2 byte "Array 2:      ", 0
    msg3 byte ", ", 0
    msg4 byte "Sum Array:    ", 0
    arr1 dword 4, 3, 8, 5, 6
    arr2 dword 3, 1, 0, 3 ,2
    arr3 dword 5 dup(?)

.code
main PROC

    mov edx, offset msg1
    call writestring
    mov esi, offset arr1
    mov ecx, lengthof arr1
    call print
    call crlf
    call crlf

    mov edx, offset msg2
    call writestring
    mov ecx, lengthof arr2
    mov esi, offset arr2
    call print
    call crlf
    call crlf

    mov edx, offset msg4
    call writestring

    mov ecx, lengthof arr3
    mov esi, offset arr1
    mov edi, offset arr2
    mov ebx, offset arr3
```

```

        call sum

        mov esi, offset arr3
        mov ecx, lengthof arr3
        call print
        call crlf
        call crlf

        call waitmsg

    exit
main ENDP
print PROC
    push esi
    push ecx

    L1:
    mov eax, [esi]
    call writedec
    mov edx, offset msg3
    call writestring
    add esi, type dword
    loop L1

    pop ecx
    pop esi
ret
print ENDP

sum PROC
    push esi
    push edi
    push ebx
    push ecx


    L1:
    mov eax,[esi]
    add eax,[edi]
    mov [ebx],eax

    add ebx, type dword
    add esi, type dword
    add edi, type dword
    loop L1

    pop ecx
    pop ebx
    pop edi
    pop esi
ret
sum ENDP
END main

```

OUTPUT:

 Microsoft Visual Studio Debug Console

Array 1: 4, 3, 8, 5, 6,

Array 2: 3, 1, 0, 3, 2,

Sum Array: 7, 4, 8, 8, 8,

Press any key to continue...

C:\Users\saadg\source\repos\Assembly_Project5

To automatically close the console when debug
le when debugging stops.

Press any key to close this window . . .