

Task-01:

```
INCLUDE Irvine32.inc
.data
print BYTE "Enter ECX Value: ",0
print2 BYTE "Enter EDX Value: ",0
print3 BYTE "x = ",0
var DWORD 5

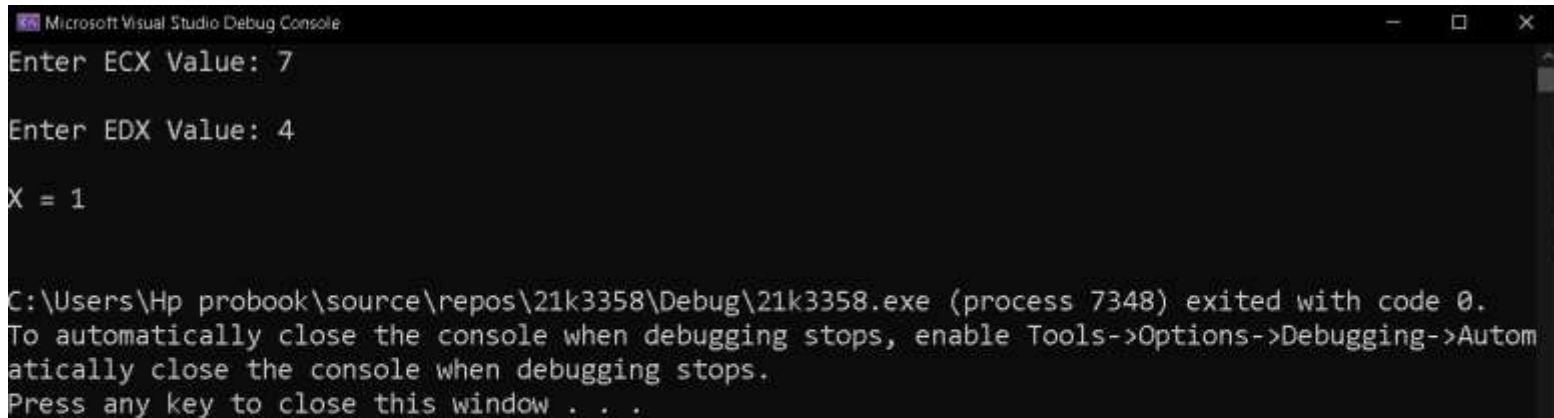
.code
main PROC
mov edx, offset print
call writestring
call readint
mov ecx, eax
call crlf

mov edx, offset print2
call writestring
call readint
mov edx, eax
call crlf
call crlf

cmp var, ecx
jb L1
jmp L2

L1:
    cmp ecx, edx
    jae L3
    jmp L2
L2:
    mov eax, 0
    mov edx, offset print3
    call writestring
    call writedec
    jmp L4
L3:
    mov eax, 1
    mov edx, offset print3
    call writestring
    call writedec
L4:
exit
main ENDP
end main
```

Output:



Microsoft Visual Studio Debug Console

```
Enter ECX Value: 7
Enter EDX Value: 4
X = 1
C:\Users\Hp probok\source\repos\21k3358\Debug\21k3358.exe (process 7348) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .
```

Task-02:

```
Include Irvine32.inc
.data

intArr SWORD 0,0,0,0,1,20,35,-12,66,4,0
print BYTE "First non-zero in the given
array: ",0

.code
main proc

mov esi, 0

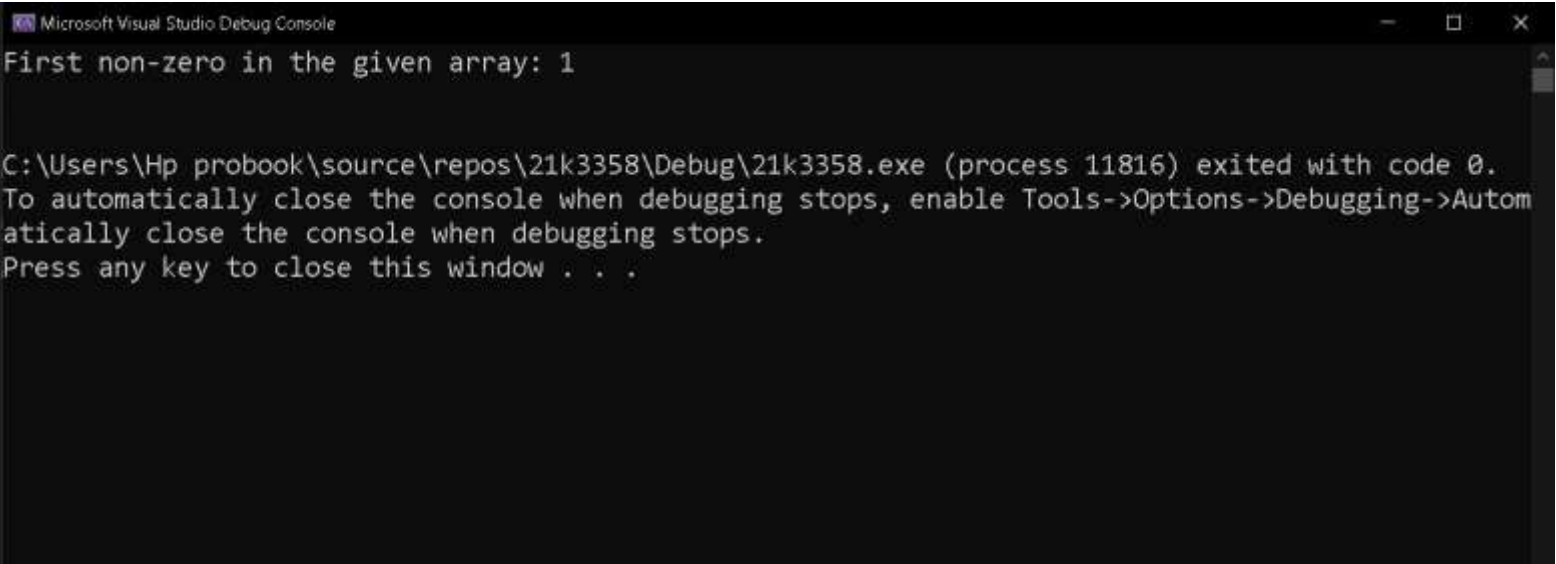
mov ecx, lengthof intArr
L1:
    mov ax, intArr[esi]
    cmp ax, 0
    jg found
    add esi, type intArr
loop L1

found:
    mov edx, offset print
    call writestring
    movzx eax, intArr[esi]
    call writedec

call crlf
call crlf

exit
main ENDP
END main
```

Output:



```
Microsoft Visual Studio Debug Console

First non-zero in the given array: 1

C:\Users\Hp probook\source\repos\21k3358\Debug\21k3358.exe (process 11816) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .
```

Task-03:

```
Include Irvine32.inc
.data

arraySize equ 4
array BYTE ?, arraySize DUP(0),0
input BYTE "Enter integer: ", 0

equal BYTE "Integers are equal", 0
unequal BYTE "Integers are not equal", 0

.code
main PROC

mov esi, 0
mov ecx, arraySize
L1:
    mov edx, offset input
    call writestring
    call readint
    mov array[esi], al
    inc esi
loop L1

mov esi, 0
mov ecx, arraySize
L2:
    movzx ebx, array[esi]
    add esi, type array
    movzx edx, array[esi]
    cmp ebx, edx
    jne end1
loop L2

call crlf
mov edx, offset equal
call writestring
jmp end2

end1:
call crlf
mov edx, offset unequal
call writestring

end2:
exit
main ENDP
END main
```

Output:

Microsoft Visual Studio Debug Console

```
Enter integer: 1
Enter integer: 3
Enter integer: 5
Enter integer: 7
```

Integers are not equal

C:\Users\Hp probok\source\repos\21k3358\Debug\
To automatically close the console when debuggi
atically close the console when debugging stops
Press any key to close this window . . .

Microsoft Visual Studio Debug Console

```
Enter integer: 2
Enter integer: 2
Enter integer: 2
Enter integer: 2
```

Integers are equal

C:\Users\Hp probok\source\repos\21k3358\Debug\
To automatically close the console when debuggi
atically close the console when debugging stops
Press any key to close this window . . .

Task-04:

```
Include Irvine32.inc
.data
arr WORD 10,4,7,14,299,156,3,19,29,300,20
print BYTE "ARRAY: ",0
comma BYTE ", ",0
input BYTE "Enter number to check if it exists in array: ",0
numberExist BYTE "Number exists in given array at index ",0
val WORD ?

.code
main PROC
mov edx, offset print
call writestring

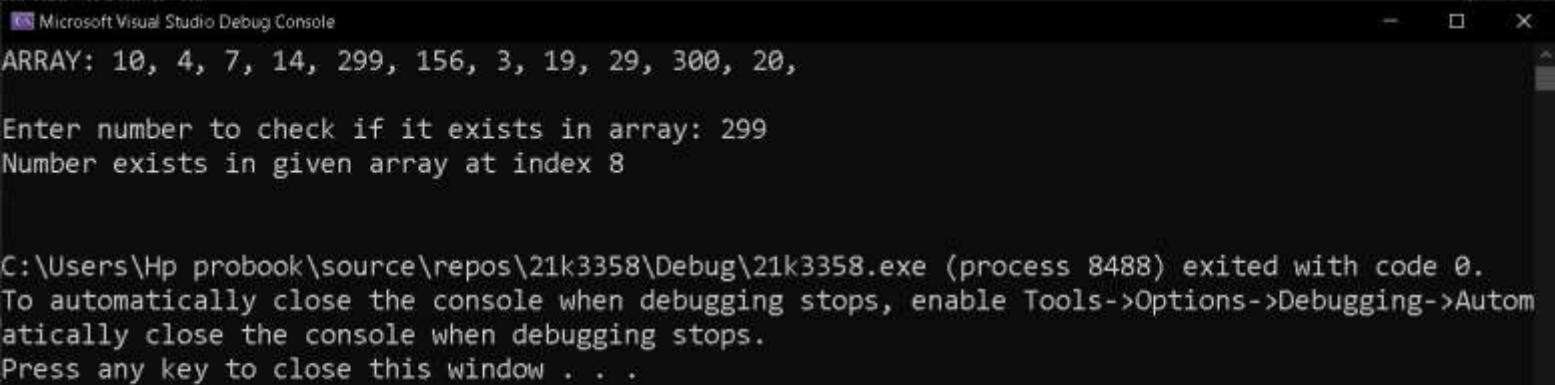
mov esi, 0
mov ecx, lengthof arr

printArr:
    mov ax, arr[esi]
    movzx eax, ax
    call writedec
    mov edx, offset comma
    call writestring
    add esi, type arr
loop printArr
mov esi, 0
mov ecx, lengthof arr

call crlf
call crlf
mov edx, offset input
call writestring
call readint
L1:
    mov bx, arr[esi]
    cmp ax, bx ;ax = input value
    je found
    add esi, type arr
loop L1
found:
    mov edx, offset numberExist
    call writestring
    mov eax, esi
    call writedec

exit
main ENDP
END main
```

Output:



Microsoft Visual Studio Debug Console

```
ARRAY: 10, 4, 7, 14, 299, 156, 3, 19, 29, 300, 20,

Enter number to check if it exists in array: 299
Number exists in given array at index 8

C:\Users\Hp probook\source\repos\21k3358\Debug\21k3358.exe (process 8488) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .
```

Task-05:

```
INCLUDE Irvine32.inc
.data

swapCount BYTE 0
swapStatement BYTE "Swap Count: ",0
list BYTE 5,3,7,1,9
print BYTE "list: ",0
comma BYTE ", ",0

.code
main PROC

mov esi, 0
mov ecx, lengthof list
mov edx, offset print
call writestring
printList:
    movzx eax, list[esi]
    call writedec
    mov edx, offset comma
    call writestring
    add esi, type list
loop printList

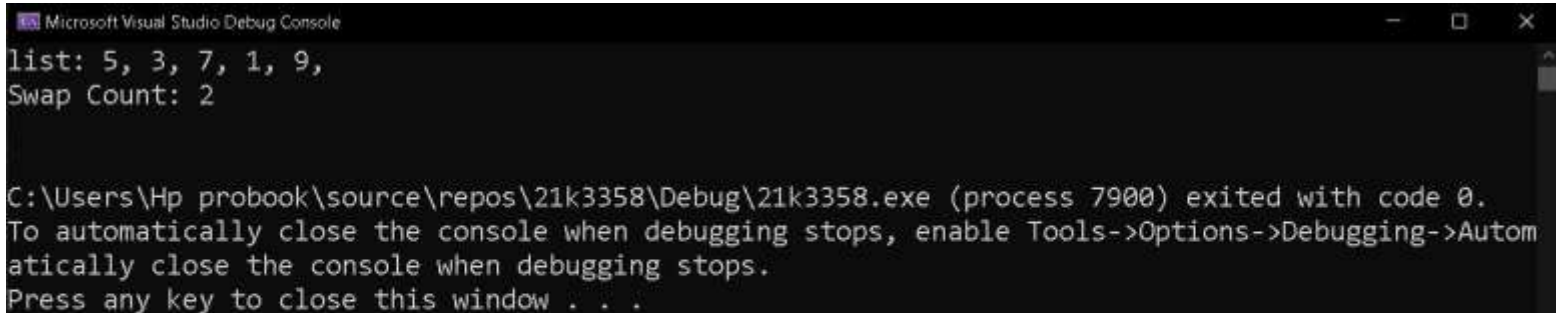
mov esi, 0
mov edi, 1
mov ecx, lengthof list

L1:
    movzx eax, list[esi]
    movzx ebx, list[edi]
    cmp eax, ebx
    ja swap
    point1:
    inc esi
    inc edi
loop L1

jmp point2
swap:
    inc swapCount
    jmp point1

point2:
call crlf
mov edx, offset swapStatement
call writestring
movzx eax, swapCount
call writedec
exit
main ENDP
END main
```

Output:



Microsoft Visual Studio Debug Console

```
list: 5, 3, 7, 1, 9,
Swap Count: 2

C:\Users\Hp probok\source\repos\21k3358\Debug\21k3358.exe (process 7900) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .
```