

E:\ubb\teme asc\pb10.asm - Notepad++

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pb10.asm

```
3 ; declare the EntryPoint (a label defining the very first instruction of the program)
4 global start
5
6 ; declare external functions needed by our program
7 extern exit ; tell nasm that exit exists even if we won't be defining it
8 import exit msvcrt.dll ; exit is a function that ends the calling process. It is defined in msvcrt.dll
9 ; msvcrt.dll contains exit, printf and all the other important C-runtime specific functions
10
11 ; our data is declared here (the variables needed by our program)
12 segment data use32 class=data
13     B db 10011100b ;=9Ch
14     A dw 1110001110001101b;=E38Dh
15     ; ...
16
17 ; our code starts here
18 segment code use32 class=code
19     start:
20         ; ...
21         ;10. Sa se inlocuiasca bitii 0-3 ai octetului B cu bitii 8-11 ai cuvantului A.
22         mov AL,[B] ;AL=1001 1100b=9Ch
23         shr AL,4 ;AL=0000 1001b=09h
24         shl AL,4 ;AL=1001 0000b=90h(B fara bitii 0-3 ai octetului B)
25         mov BX,[A] ;BX=1110 0011 1000 1101b=E38Dh
26         shr BX,8 ;BX=0000 0000 1110 0011b=00E3H
27         shl BL,4 ;BL=0011 0000b=30h
28         shr BL,4 ;BL=0000 0011b=03h
29         add AL,BL ;AL=1001 1110b=93h
30         mov [B],AL ;B=1001 1110b=93h
31
32
33         ; exit(0)
34         push     dword 0 ; push the parameter for exit onto the stack
35         call     [exit] ; call exit to terminate the program
36
```

ASM Build - Success

OutputError List

ALINK v1.6 (C) Copyright 1998-9 Anthony A.J. Williams.All Rights ReservedLoading file E:\ubb\teme asc\pb10.objmatched Externsmatched ComDefsGenerating PE file E:\ubb\teme asc\pb10.exe

Assembly language source file

length : 1,440 lines : 36Ln : 30 Col : 19 Sel : 0 | 0

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pb10.<ModuleEntryPoint>+1E

[illegible]

```

Registers (3DNOWt)
EAX 0019FF93
ECX 00402000 pb10.<ModuleEntryPoint>
EDX 00402000 pb10.<ModuleEntryPoint>
EBX 00210005
ESP 0019FF74
EBP 0019FF80
ESI 00402000 pb10.<ModuleEntryPoint>
EDI 00402000 pb10.<ModuleEntryPoint>
EIP 0040201E pb10.0040201E
C 0 ES 002B 32bit 0(FFFFFFFF)
P 1 CS 0023 32bit 0(FFFFFFFF)
A 0 SS 002B 32bit 0(FFFFFFFF)
Z 0 DS 002B 32bit 0(FFFFFFFF)
S 1 FS 0053 32bit 21E000(FFF)
T 0 GS 002B 32bit 0(FFFFFFFF)
D 0
O 0 LastErr 000000BB ERROR_SEM_NOT_FOUND
EFL 00000296 (NO,NB,NE,A,S,PE,L,LE)
MM0 0.0 0.0
MM1 0.0 0.0
MM2 0.0 0.0
MM3 0.0 0.0
MM4 0.0 0.0
MM5 0.0 0.0
MM6 0.0 0.0
MM7 0.0 0.0
XMM0 00000000 00000000 00000000 00000000
XMM1 00000000 00000000 00000000 00000000
XMM2 00000000 00000000 00000000 00000000
XMM3 00000000 00000000 00000000 00000000
XMM4 00000000 00000000 00000000 00000000
XMM5 00000000 00000000 00000000 00000000
XMM6 00000000 00000000 00000000 00000000
XMM7 00000000 00000000 00000000 00000000
MXCSR 00001F80 FZ 0 DZ 0 Err P U O Z D I
Rnd NEAR Nask 0 0 0 0 0 0
1 1 1 1 1 1

```

| Address  | Disassembly | Comment                                      |
|----------|-------------|--|
| 0019FF74 | 7C63FA29    | RETURN to KERNEL32.BaseThreadInitThunk+19    |
| 0019FF77 | 0021B000    |  |
| 0019FF7C | 7C63FA18    | KERNEL32.BaseThreadInitThunk                 |
| 0019FF80 | 0019FFDC    |  |
| 0019FF84 | 776B7A9E    | RETURN to ntddl.776B7A9E                     |
| 0019FF88 | 0021B000    |  |
| 0019FF8C | C5AE3036    |  |
| 0019FF90 | 00000000    |  |
| 0019FF94 | 00000000    |  |
| 0019FF98 | 0021B000    |  |
| 0019FF9C | 00000000    |  |
| 0019FFA0 | 00000000    |  |
| 0019FFA4 | 00000000    |  |
| 0019FFA8 | 00000000    |  |
| 0019FFAC | 00000000    |  |
| 0019FFB0 | 00000000    |  |
| 0019FFB4 | 00000000    |  |
| 0019FFB8 | 00000000    |  |
| 0019FFBC | 00000000    |  |
| 0019FFC0 | 00000000    |  |
| 0019FFC4 | 0019FF8C    |  |
| 0019FFC8 | 00000000    |  |
| 0019FFCC | 9019FFEA    | Pointer to next SEH record                   |
| 0019FFD0 | 776CDD4D    | SE handler                                   |
| 0019FFD4 | B2C2B78A    |  |
| 0019FFD8 | 00000000    |  |
| 0019FFDC | 0019FFC0    |  |
| 0019FFE0 | 776B7A9E    | RETURN from ntddl.776B7A9E to ntddl.776B7A9E |
| 0019FFE4 | FFFFFFFF    | End of SEH chain                             |
| 0019FFE8 | 776D8440    | SE handler                                   |
| 0019FFEC | 00000000    |  |
| 0019FFF0 | 00000000    |  |

```

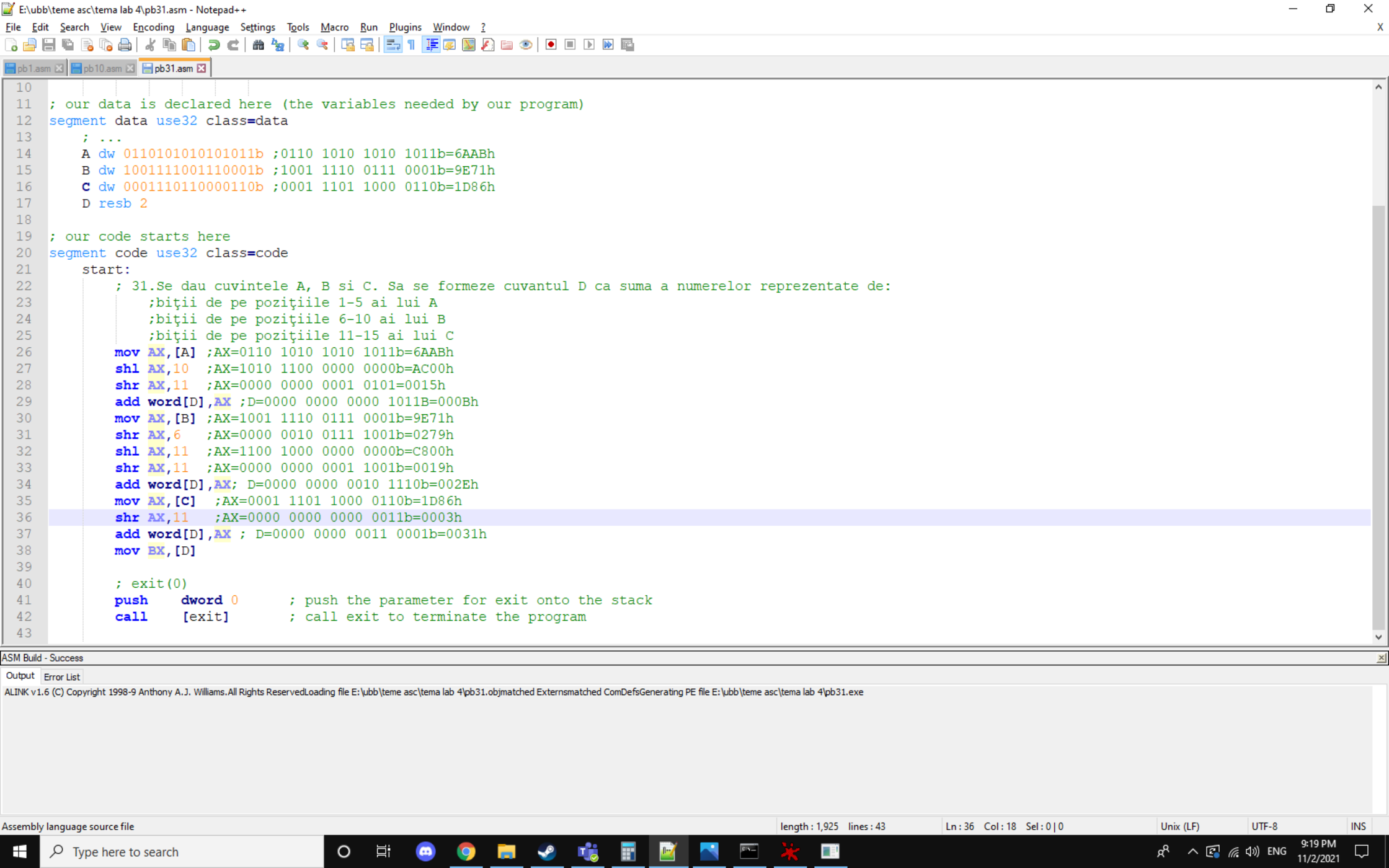
7 extern exit           ; tell nasm that exit exists even if we won't be defining it
8 import exit msvcrt.dll ; exit is a function that ends the calling process. It is defined in msvcrt.dll
9                        ; msvcrt.dll contains exit, printf and all the other important C-runtime specific functions
10
11 ; our data is declared here (the variables needed by our program)
12 segment data use32 class=data
13     ; ...
14     A dw 1100001110101001b ;1100 0011 1010 1001b=C3A9h
15     B dw 1010111101011110b ;1010 1111 0101 1110b=AF5Eh
16     C resb 4
17 ; our code starts here
18 segment code use32 class=code
19     start:
20         ; 1.Se dau cuvintele A si B. Sa se obtina dublucuvantul C:
21         ;   bitii 0-4 ai lui C coincid cu bitii 11-15 ai lui A
22         ;   bitii 5-11 ai lui C au valoarea 1
23         ;   bitii 12-15 ai lui C coincid cu bitii 8-11 ai lui B
24         ;   bitii 16-31 ai lui C coincid cu bitii lui A
25     mov AX,[A] ;AX=1100 0011 1010 1001b=C3A9h
26     shr AX,12 ;AX=0000 0000 0000 1100B=000Ch
27     add [C],AX ;C=0000 0000 0000 1100B=000Ch
28     add dword[C],111111110000b ;C=0000 1111 1111 1100B=0FFCh
29     mov BX,[B] ;BX=1010 1111 0101 1110b=AF5Eh
30     shr BX,8 ;BX=0000 0000 1010 1111b=00AFh
31     shl BX,12 ;BX=1111 0000 0000 0000b=F000h
32     add [C],BX ;C=1111 1111 1111 1100b=FFFCb
33     mov CX,[A] ;CX=1100 0011 1010 1001b=C3A9h
34     add word[C+2],CX ;C=1100 0011 1010 1001 1111 1111 1111 1100b=C3A9 FFFCh
35     mov EDI,[C]
36     ; exit(0)
37     push dword 0 ; push the parameter for exit onto the stack
38     call [exit] ; call exit to terminate the program
39

```

|        |            |
|--------|------------|
| Output | Error List |
|--------|------------|

ALINK v1.6 (C) Copyright 1998-9 Anthony A.J. Williams.All Rights ReservedLoading file E:\ubb\teme asc\tema lab 4\pb1.0b\matched Externs\matched ComDefs\Generating PE file E:\ubb\teme asc\tema lab 4\pb1.exe





```
[status = 0
MSVCRT.exit
```

```
Registers (3DNow!)
EAX 00190003
ECX 00402000 pb31.<ModuleEntryPoint>
EDX 00402000 pb31.<ModuleEntryPoint>
EBX 00130031
ESP 0019FF70
EBP 0019FF80
ESI 00402000 pb31.<ModuleEntryPoint>
EDI 00402000 pb31.<ModuleEntryPoint>
EIP 00402048 pb31.00402048

C 0 ES 002B 32bit 0(FFFFFFFF)
P 0 CS 0023 32bit 0(FFFFFFFF)
A 0 SS 002B 32bit 0(FFFFFFFF)
T 0 DS 002B 32bit 0(FFFFFFFF)
S 0 FS 0053 32bit 313000(FFF)
T 0 GS 002B 32bit 0(FFFFFFFF)
D 0
I 0
0 0 LastErr 0000000B ERROR_NOT_FOUND
EFL 00000212 (NO, NE, NA, NS, PO, GE, G)
```

|  |  |
|--|--|
|  |  |
|--|--|

```

0019FF7F 00000000      status = 0
0019FF7F 76C3FA29      RETURN to KERNEL32.BaseThreadInitThunk+19
0019FF7F 00310000      1
0019FF7F 76C3FA10      1
0019FF80 0019FFDC      = "d
0019FF84 776B7FA9      xzkw RETURN to ntdll.776B7FA9E
0019FF88 00310000      1
0019FF90 43FDE644      d"7C
0019FF90 00000000
0019FF94 00000000
0019FF98 00310000      1
0019FF9C 00000000
0019FFA0 00000000
0019FFA4 00000000
0019FFA8 00000000
0019FFAC 00000000
0019FFB0 00000000
0019FFB4 00000000
0019FFB8 00000000
0019FFBC 00000000
0019FFC0 00000000
0019FFC4 0019FF8C      ""
0019FFC8 00000000
0019FFCC 0019FFE4      n"4 Pointer to next SEH record
0019FFD0 776CDA40      @slw SE handler
0019FFD4 3453E9D8      "US4
0019FFD8 00000000
0019FFDC 0019FFEC      "4
0019FFE0 776B7FA9      nzkw RETURN from ntdll.776B7FA9F to ntdll.776B7FA9E
0019FFE4 FFFFFFFF      """" End of SEH chain
0019FFE8 77D08A6E      n0mw SE handler
0019FFEC 00000000

```