4.
```
    a dw 5
    b dw 6
    c dd 112233h

    mov ax, [a]
    mov bx, [b]
    mov ecx, [c]
    push ecx
    push ax
    pop eax
    push bx
    pop ebx
```
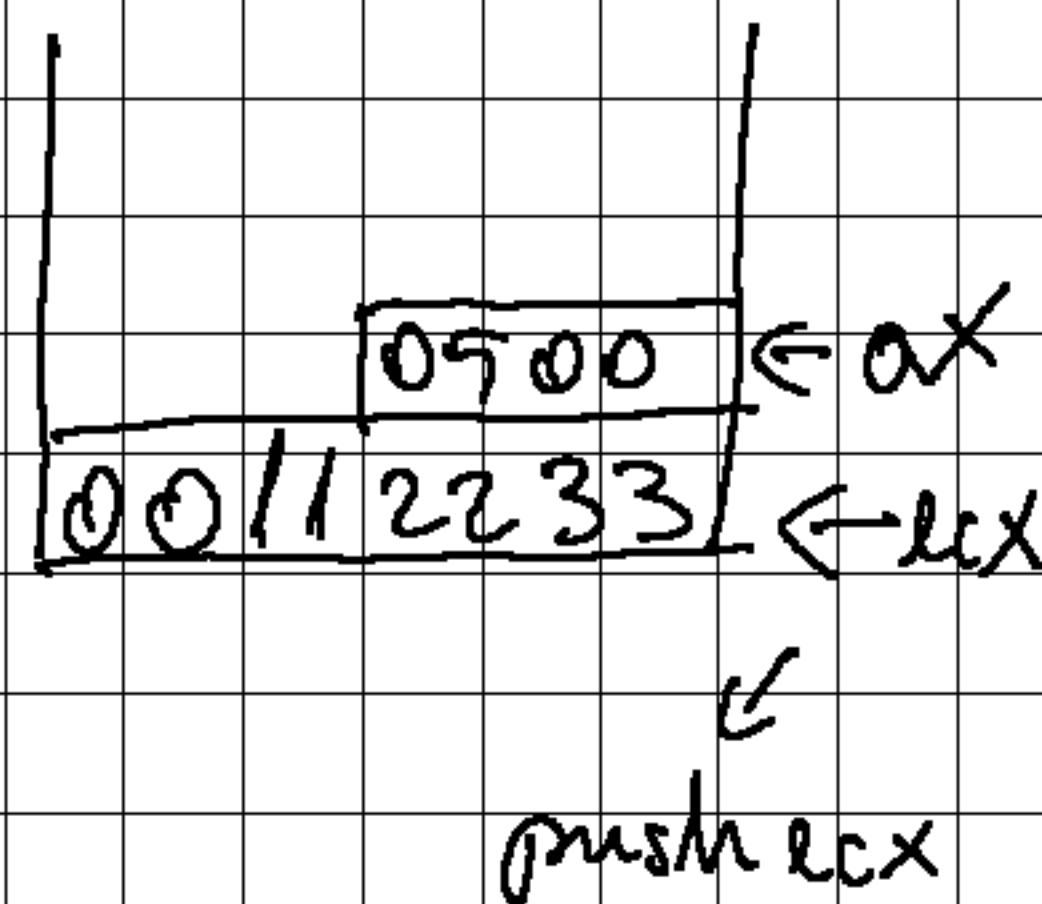
What will be in eax, ebx after running the code

ax: 0500
bx: 0600

eax: 33220500
ebx: 11000600

Which one of the following address(es) is/are valid? SS, ds, cs, es : base + index * scale + numar;
scale: 0, 1, 2, 4, 8

a) mov eax, [eax * 9 + 12] ; => eax + 8 * eax + 12

b) mov eax, [SS: ebx + eax + 3]

c) mov eax, [esi + 2 * esp + 1]; = care e registrul care nu poate fi folosit ca index

d) mov eax, [esp + 2 * esi + 1]

e) mov eax, [ebx + 3 * eax + 1]

f) mov eax, [edx + 4 * eax + 2]

g) mov eax, [edx + 9 * eax]

h) mov eax, [edx + eax * 9]

offset : [base + index * scale + constant]

$$2^0 - 1$$
$$2^1 - 2$$
$$2^2 - 4$$

base scale index
↓   ↓   ↓
eax + 8 * eax

SS : static segment
ds : data - // -
cs : code - // -

STO SB

LOD SW

MOV SD

a   db   1,2,3,4   01020304

DF=0 by default

mov ESi, 0

lod Sb

⟶ AL = [ESi]

ESi = ESi + 1

lod SW

⟶ AX = [ESi] = 0302

ESi = ESi + 2

lod SD

⟶ EAX = [ESi]

ESi = ESi + 4

ESi   source

EDi   destination

DF: 0, 1

CLD ⟹ DF = 0   ascending ⟶

STD ⟹ DF = 1   descending ⟵

i) DF = 1

} ESi = ESi − 1

} ESi = ESi − 2

} ESi = ESi − 4

```
b resb 4
mov edi, b
Stosb => AL => EDi
            edi = edi + 1


Stosw => AX => EDi
            edi = edi + 2


                ↗ eri
movsb
            ↘ edi

  esi = esi + 1
  edi = edi + 1
```

Lab 6 example from the website:

```
sir    dg    11 22 33 44 55 66 77 88 h , 1122 h

move esi , sir
lodsd ;    EAX= 55667788 ;   esi = esi+4
lodsd ;    EAX = 11223344
shr eax , 16 ;    AX :    0000 1122
                                    AX
OR
lod sw
lod sw

for : 8    =>   AND 00000111 => mask to check
                     1000 => is div with 8
```
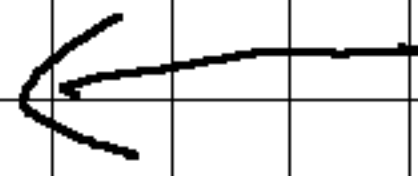
1. EAX → EDX !   ↗ all the registers at once

    ↳ pop AD ⇒ pop EAX .... EDX

    push AD ⇒ push EAX, push EBX ... EDX

printf (format, param1, param2 ...)
                        ←

push param2
push param1
push format

        ↳ %. S (string)

          %. C (character)

          %. d (decimal)