1) a) copies contents of BX to AX (16 bit register to register)
b) " 3AH into CH register (8 bit " (byte)
c) " contents of AX into the address
↳ (DS x 10H + 4215H)
d) copies CL into memory address → (DS x 10H + BX)
e) calismaz. copying segment to segment is not allowed.
f) mixed size copying is not allowed. (8 bit vs 16 bit)
g) Code segment cannot be the destination.

2) AH, AL, BH, BL, CH, CL, DH, DL → 8 bit registers
AX, BX, DX, CX, SP, BP, SI, DI → 16 bit registers.

3) a) MOV AL, 12H
b) MOV AX, CX
c) MOV BL, 100 or MOV BL, 64H.
d) MOV AX, [BX]
e) PUSH AX
f) (sonuna sonuda AX ver) POP AX
g) PUSHA.

4) a) D: AL — S: DS x 10H + 1234H ⇒ 2000H + 1234H = 3234H.
b) EAX. DS x 10H + BX ⇒ 2000H + 0300H = 2300H.
c) DS x 10H + DI ⇒ 2400H.
d) AX DS x 10H + DI + 100H ⇒ 2500H
e) burayı yok. DS x 10H + ARRAY + BX ⇒ 1000H + 5100H + 300H = 7400

AX	CX	DX	BX	SP	BP	DI	SI

↓
PUSHA atma sırası
(1)

5) 0x1900 = 1900H ✓

Sıradaki çalıştıralacak instruction'ın memorydeki adresini bulmak için;

CS x 10H + IP ⇒ 19000H + 1760H = 1A760H

6) (2 tarafta memory) Memory to memory move is not allowed.

7) Direct, Relative, Indirect.

8) code segment (CS) → değişikliğe izin vermez

9) SS x 10H + SP → stackin en son dolu alanına yönlendirir.

Default DF = 0.

(Push işlemleri 16 bit yapılır.)

2100H → Dolu.

20FFH → BH

20FEH → BL.

SP → -2 (SP iki azalacak)

0100H

00FEH → (SP nin son konumu).

10) 2.

AX	BX	CX	DX

1. Develop a short sequence of instructions that adds AX, BX, CX, DX, and SP. Save the sum in the DI register.
2. Choose an instruction that adds 1 to the contents of the SP register.
3. Write a short sequence of instructions that subtracts the numbers in DI, SI, and BP from the AX register. Store ifference in register BX.
4. what the SBB [DI–4],DX instruction accomplishes.
5. the difference between the SUB and CMP instruction.
6. two 8-bit numbers are multiplied, where is the product found?
7. two numbers multiply, what happens to the O and C flag bits?
8. Wnt a procedure named CUBE which includes sequence of instructions that cube the 8-bit number found in BL. Make sure that your result is a 16-bit number.
9. When 8-bit numbers are divided,in which register is the dividend(bölünen sayı) found?
10. When 16-bit numbers are divided, in which register is the quotient(Bölüm) found?
11. What errors are detected during a division?
12. Write a short sequence of instructions that divides the number in BL by the number in CL and then multiplies the result by 2. The final answer must be a 16-bit number stored in the DX register.
13. Develop a short sequence of instructions that clears (0) the three leftmost bits of DH without changing the remainder of DH.
14. Develop a short sequence of instructions that sets (1) the rightmost 5 bits of DI without changing the remaining bits of DL
15. Develop a sequence of instructions that sets (1) the rightmost 4 bits of AX; clears (0) the leftmost 3 bits of AX; and inverts bits 7, 8, and 9 of AX.
16. Select the correct instruction to perform each of the following tasks:
    a. shift DI right three places, with zeros moved into the leftmost bit
    b. move all bits in AL left one place, making sure that a 0 moves into the rightmost bit position rotate all the bits of AL left three places

Write down the contents of registers when following instructions executed. Assume that contents of AX, BX, CX and DX are 0000H initially. Also address of data1 and data2 are 0000H and 0002H respectively.

```
data1 DW 1234H
data2 DW 5678H
mov si, 514ah
mov [si], 6583h
lodsb
lea di, data2
lea bx,[di]
mov cx,[di]
mov dx,[0000H]
```

AX	BX	CX	DX

1. Develop a short sequence of instructions that adds AX, BX, CX, DX, and SP. Save the sum in the DI register.
2. Choose an instruction that adds 1 to the contents of the SP register.
3. Write a short sequence of instructions that subtracts the numbers in DI, SI, and BP from the AX register. Store the difference in register BX.
4. Explain what the SBB [DI–4],DX instruction accomplishes.
5. Explain the difference between the SUB and CMP instruction.
6. When two 8-bit numbers are multiplied, where is the product found?
7. When two numbers multiply, what happens to the O and C flag bits?
8. Write a procedure named CUBE which includes sequence of instructions that cube the 8-bit number found in BL. Make sure that your result is a 16-bit number.
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11. What errors are detected during a division?
12. Write a short sequence of instructions that divides the number in BL by the number in CL and then multiplies the result by 2. The final answer must be a 16-bit number stored in the DX register.
13. Develop a short sequence of instructions that clears (0) the three leftmost bits of DH without changing the