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CSE 331L Mid-term

Ans for ques – 1

1. LEA: LEA is basically Load Effective Address. LEA consists of operands like REG, MEM.

The Algorithm of LEA:

REG = address of memory

Example:

```
MOV BX, 35h
MOV DI, 12h
LEA SI, [BX + DI]
```

Offset: Offset is generally like the assembler directive for x86 assembly language. It stands for address and it is related to "mov" instruction.

1. mov si, offset variable
2. mov si, variable

Where the upper one loads SI with the address of variable. The lower one loads the SI with the value stored.

And for x86 assembler,

1. mov si, offset variable
2. mov si, [variable]

Ans for ques - 2

DATA SEGMENT and DATA : Difference between them :

DATA SEGMENT is generally kind of starting point of Data segment in any given program Data segment is related to read/write dee to its variables can be altered at run time.

Data : The type of values or variables that the Data segment holds is Data.

As for example : int i = 7

char s[] = "Hello World"

Ans for ques — 3

ASSUME DS : DATA CS : CODE

The above mentioned line is denoted from the ASSUME statement. ASSUME for a particular applies to all particular register, upto the next ASSUME statement.

ASSUME DS : DATA CS : CODE assumes data is the name or DATA ^ in ~~the~~ given to DATA segment Register. And CODE is the name given to CODE segment Register. Whereas SS, ES also used like CS, DS.

Ans for ques—(4)

To access memory, certain registers are used.

[BX+SI] [BX+DI] [BP+SI] [BP+DI]	[SI] [DI] d16 (variable offset only) [BX]	[BX+SI+d8] [BX+DI+d8] [BP+SI+d8] [BP+DI+d8]
[SI+d8] [DI+d8] [BP+d8] [BX+d8]	[BX+SI+d16] [BX+DI+d16] [BP+SI+d16] [BP+DI+d16]	[SI+d16] [DI+d16] [BP+d16] [BX+d16]