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Q.1

Lea: is just a shift-and instruction. It never actually loads from memory, it just uses the addressing- mode syntax and binary encoding.

offset : is immediate value which is calculated during translation. and Lea - is actual processor instruction "Load Effective Address" with second operand which references to memory

Q.2

Ans: In computing, a data segment is a portion of an object file on the corresponding address space of a program that contains initialized static variables, that is, global variables and static local variables. This is in contrast to the read-only data segment.

Data: are characteristics or information, usually usually numerical, that are collected through observation.

Q.3

Ans: The default is what we have used so far. ASSUME es, (a) code ds; (b) data. es: NOTHING An Assume for a particular register applies to all a particular register applies to all the program text which follows it in line-by-line order not execution order up to the next. Assume statement for that specific register.

Q.4

Ans: We can use these four registers:

BX, SI, DI, and BP

BX + SI	SI	BX + SI + d8
BX + DI	DI	BX + DI + d8
BP + SI	d16	BP + SI + d8
BP + DI	BX	BP + DI + d8

SI + d8	BX + SI + d16	SI + d16
DI + d8	BX + DI + d16	DI + d16
BP + d8	BP + SI + d16	·BP + d16
BX + d8	BP + DI + d16	BX + d16