

1) LEA is an instruction which load 'offset' while adjusting the address between 16 and 32 bits as necessary. LEA means load effective address.

Offset: offset is an assembler directive in x86 assembly language. It actually means address, ~~and a way of getting~~ it actually not value rather the address of value.

2) Data segment: Data segment is a portion of a object file corresponding address space of program that contain initialized variables. ~~the~~ ~~size~~ generally points to the variable where they defined.

Data: Data is the ~~actual thing~~ facts or studies collected for reference and analysis. Data used

For loading data segment. we initialize the ~~offset~~ ^{address} into dx register.

3] We have to assume ~~DS~~ data segment and the code segment. DATA is the name of data segment and CODE is the name of code segment. In exe assembly we have to assume that.

4] To access memory we can use BX, SI, DI and BP. We can combine them for access different memory location:

$[BX + SI]$ $[BX + DI]$ $[BP + SI]$ $[BP + DI]$	$[SI]$ $[DI]$ $[BP]$ $[BX]$	$[BX + SI + d8]$ $[BX + DI + d8]$ $[BP + SI + d8]$ $[BP + DI + d8]$
$[SI + d16]$ $[DI + d16]$ $[BP + d16]$ $[BX + d16]$	$[BP + SI + d16]$ $[BX + DI + d16]$ $[BP + SI + d16]$ $[BP + DI + d16]$	$[SI + d16]$ $[DI + d16]$ $[BP + d16]$ $[BX + d16]$