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8086 assembler directives ppt

Instruction set and assembler directives of 8086.

Introduction: Installation directives are instructions related to kits that determine how to process program operands or sections. They are also called pseudo -operatives that are not done by a microprocessor. The next chapter explains the main 8086 Assembly Directive. Installation Directives: Another is different directives. 1. Suppose: Extended Directive is used to inform about the name of the logical segment it must use for a particular segment. Example: Suppose DS: Data says that any message program belonging to the data segment must use a logical segment called data.

Assembler Directives

END - End the program

- To tell the assembler to stop fetching the instruction and **end the program execution.**
- ENDP - indicate end of procedure.
- ENDS - indicate end of segment.

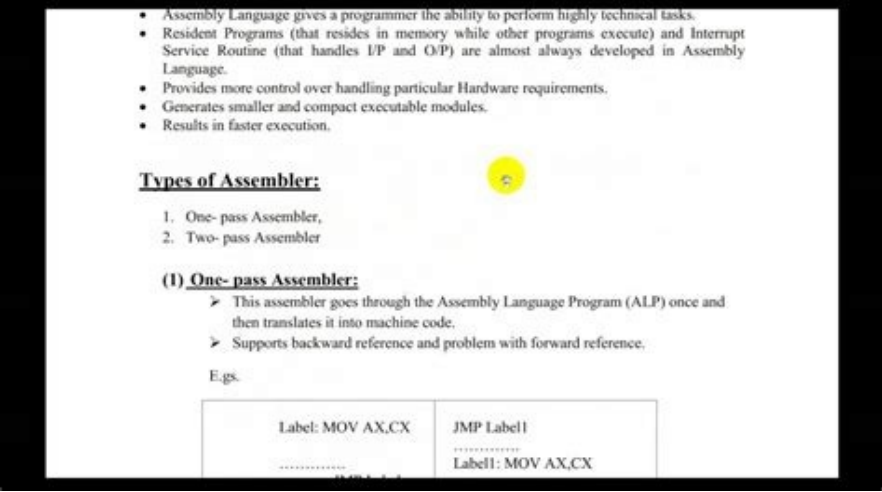
EQU - Equate

- Used to give **name to some value** or symbol.

EVEN - Align on Even memory address

- Tells the assembler to **increment the location counter** to the next even address if it is not already at an even address.

2.DB -Stay by byte. It is used to declare a byte variable or order one or more bytes in the storage storage. For example, the Current_Value DB 36H makes the assembly 1 byte memory variable called the Current_Value, and insert the 36H value at this memory site when the program is uploaded to RAM. 3.



DW defined name. This forces the assembly to define the word variable or to reserve the type of memory storage site. 4. DD (define the double word): This directive is used to declare a double word variable or restore a memory site that can be achieved as a double word type. 5.Dq (define four words): This directive is used to the collector to publish a variable that is in memory of a 4 word length or 4 book words. 6.dt (define ten bytes): It is used to inform the collector to define the 10 -bytes memory of a 10 -length variable or book. 7.

PROC (Procedure) Directive

- PROC - The PROC directive is used to identify the start of a procedure. The term near or far is used to specify the type of the procedure.
- Example:
 - SMART PROC FAR ; This identifies that the start of a procedure named as SMART and instructs the assembler that the procedure is far.
 - SMART ENDP ; This PROC is used with ENDP to indicate the break of the procedure.

The equation must be equated with the value or symbol of the name. Each time Mounter finds a specific name in the program, it changes the name with a value or symbol we equated with this name. 8.org -origate: Org operator changes the original data switch address. This allows at any point of the program to set the position meter to the desired value.

As StatmB'Vavod: Assembler directives are instructions for the assembler to determine how the operand or section of the program should be processed. They are also called pseudo-operation which cannot be produced by a microprocessor. This part explains the main assembler directive for the 8086. Assembler directives: The various directives are described below. 1. Suppose: Explicit directive is used to communicate the assembler named after a logical segment which is to be used for the specified segment. For example: Suppose DS:Data informs the assembler, that it must use a logical segment called DATA for all software instructions that refer to the data segment. 2.DB-PRE TENTED BYTE.

TYPE, PTR(POINTER)

- TYPE - instructs the assembler to determine the type of a variable and determines the number of bytes specified to that variable.
Example:
Byte type variable - assembler will give a value 1 Word type variable - assembler will give a value 2 Double word type variable - assembler will give a value 4 ADD BX, TYPE WORD... AREA; here we want to increment BX to point to next word in an array of words.
- PTR (POINTER) : used to assign a specific type to a variable or a label. It is necessary to do this in any instruction where the type of the operand is not clear.
Example:
INC [BX]; It will not know whether to increment the byte pointed to by BX. We use the PTR operator to clarify how we want the assembler to code the instruction.
INC BYTE PTR [BX]; This statement tells the assembler that we want to increment the byte pointed to by BX.
INC WORD PTR [BX]; This statement tells the assembler that we want to increment the word pointed to by BX. The PTR operator assigns the type specified before PTR to the variable specified after PTR.

It is used to declare variable bytes or to allocate one or more memory storage spaces in memory. For example, the Current_Value 36H database informs the assembler to reserve a 1-byte variable called trafil_value and place 36h in that memory cell when loading the program. 3. DV - Define a word. This means that the assembler will determine the variable type of word storage or reserve for the word type in memory. 4. DD (Determine Double Word): This directive is used to declare a variable type of double word or restore memory cells which can be accessed in double word. 5.DQ (define quad): This directive is used to indicate an assembler to declare 4 words or reserve 4 words in memory. 6.DT (determine ten bytes): Used to inform the assembler of the need to determine the variable 10 bytes with a length or reserve of 10 bytes in memory. 7. equ e \xe2\x80\x93 Equate is used to indicate a name of a certain value or symbol. Whenever the assembler finds the name of the noun in the program, it replaces the name with the meaning or the symbol that we faced in that name. 8.ORG -Ogate: The Org operator modifies the initial data movement address.

Assembler Directives (cont..)

- **DW** - The DW directive is used to define a variable of type word or to reserve storage location of type word in memory.
- **Example:**
- MULTIPLIER DW 437Ah ;** this declares a variable of type word and named it as MULTIPLIER. This variable is initialized with the value 437Ah when it is loaded into memory to run.
- EXP1 DW 1234h, 3456h, 5678h ;** this declares an array of 3 words and initialized with specified values.
- STOR1 DW 100 DUP(0);** Reserve an array of 100 words of memory and initialize all words with 0000.Array is named as STOR1.

This allows you to set the location counter to the desired value at any point in the program. For exampleEnd of this logical segment. Example: code segment: the beginning of the logical segment containing the final code: the end of the segment called the code. Code.