# COA – Lab Assignment 1

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## Memory Models in 8086 –

The memory models in 8086 specify the size of memory assigned to the different parts of a program. The. MODEL directive is used at the start to specify which model is going to be used. There are total 6 memory models:

1. TINY – In this model both code and data occupy a single physical segment of memory. On linking a file with this model, it automatically generates a com file which is smaller than exe file.
2. SMALL – In this model, the code and data occupy individual physical segments from memory.
3. COMPACT – In this model the code occupies a single physical segment while the contents of data can be given their own separate segments.
4. MEDIUM – In this model the data occupies a single segment.
5. LARGE – In this model, both code and data are stored in different physical statements.
6. HUGE – It is similar to LARGE with an only difference that a data array may have a size that exceeds one physical segment.

## Instructions –

- MOV: This instruction is used to move data from one location to another.
  Syntax – mov destination, source

- LEA (Load Effective Address): It loads the specified register with the offset of a memory location.

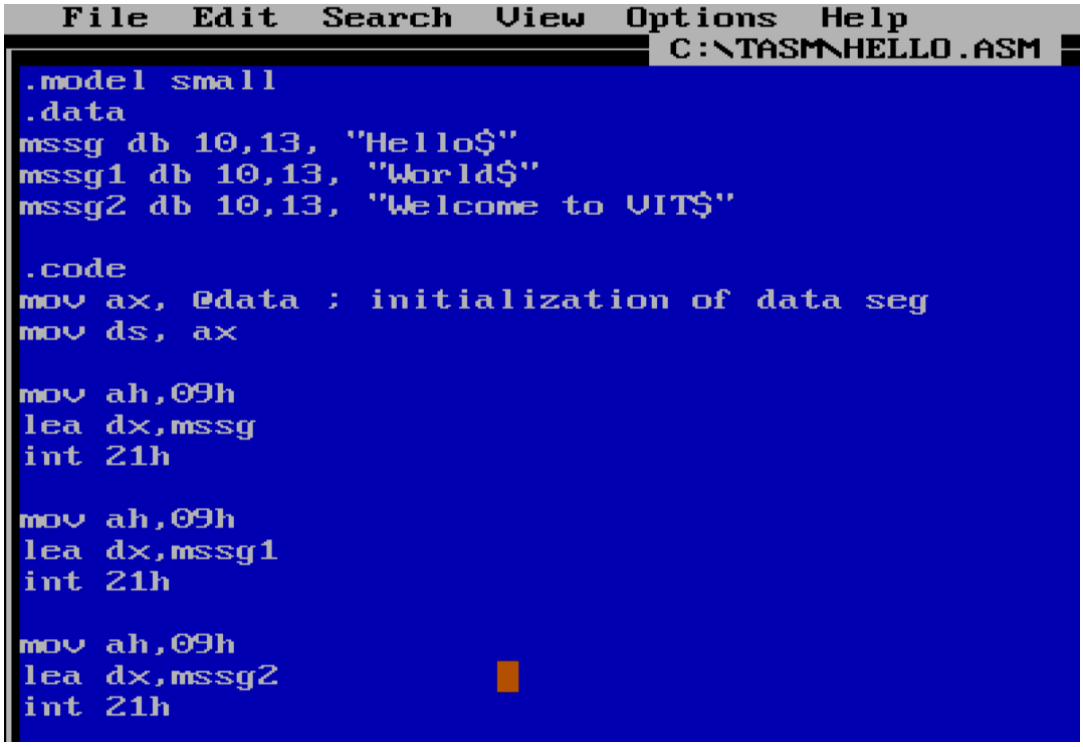
## Commands –

1. **09h**: Displays the string until "$" is reached.
2. **Int 21h**: Interrupt used to exit the program.
3. **.data**: This Command is used only when we want to store in Data Segment, basically, it is the memory access of the Data Segment. Whatever we want to print must be written here. Also, the variables are declared here.
4. **10, 13**: They work as Escape Sequence Character
5. **$**: It states the end of a Statement
6. **Db (Define Byte)**: It acts as an Assembler Directive

7. **. code**: Full Logical Program is written here
8. **Tasm –** Used for Compilation
9. **tlink**– Perform linking operation

## Screenshots of Source Code and Output:

## Source Code –




## Output: