



Using MS-DOS DEBUG

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Objectives

- At the end of the tutorial you will learn the following.
 - Define Debug.
 - Define MS-DOS Debug
 - Enumerate different MS-DOS debug commands
 - Write examples using MS-DOS debug

What is Debug

Identify and remove errors from
(computer hardware or software).

Debugging is the process of finding and resolving defects or problems within a computer program that prevent correct operation of computer software or a system.

What is MS-DOS Debug

Debug.com

- is a debugging utility available in MS-DOS.
- can act as an assembler, disassembler, or hex dump program allowing users to interactively examine memory contents (in assembly language, hexadecimal or ASCII), make changes, and selectively execute COM, EXE and other file types.

DEBUG

Commands

```
assemble      A [address]
compare       C range address
dump          D [range]
enter         E address [list]
fill          F range list
go            G [=address] [addresses]
hex           H value1 value2
input         I port
load          L [address] [drive] [firstsector] [number]
move          M range address
name          N [pathname] [arglist]
output        O port byte
proceed       P [=address] [number]
quit          Q
register       R [register]
search        S range list
trace         T [=address] [value]
unassemble    U [range]
write         W [address] [drive] [firstsector] [number]
allocate expanded memory      XA [#pages]
deallocate expanded memory    XD [handle]
map expanded memory pages     XM [Lpage] [Ppage] [handle]
display expanded memory status XS
```

Demo => MS-DOS

DEBUG Commands

Q – Quit

- Finishes the debug session and ends back to the DOS prompt.

H - Hexadecimal

- Command that shows the sum and different of two 4 digit hexadecimal numbers. Coded as H <Hex Value> <Hex Value>

A – Assemble

- It enables the user to create a program in mnemonics or symbolic code.
- It also translate the assembly language code into machine code.

DEBUG Commands

D – Display / Dump

- Display the content of the portion of the memory in Hex or in ASCII forms starting with the given address.

G – Go

- Instruction used to execute the program as a whole in the memory and displays the result

R - Register

- Instructions that allows to displays the content of all the registers and their values.
- It also displays the content of the next instruction and permits the user to change the value of a particular register.

DEBUG Commands

E - Enter

- It enables the user to key in data or machine instruction into the memory at a specific location address.

U - Unassemble

- Lists all the instructions contained in the program beginning at the given address.

T - Trace

- Instruction that runs the program in a single step mode. It also displays the new value of the register and the next instruction to be executed.

DEBUG Commands

**N -
Name**

- Gives a name to the program.

**W -
Write**

- Saves the program into disk