**CS322 Lab 2 Debug Report**

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| Function code parameters   |  |  |  | | --- | --- | --- | | 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] [number] | | unassemble | U | [range] | | write | W | [address] [drive] [firstsector] [number] | |

**Assemble: A [address]**

Creates machine executable code in memory beginning

**Quit: Q**

Immediately quits (exits) the Debug program!

**Hex: H value1 value2**

A very simple (add and subtract only) Hex calculator. DEBUG shows **first** the SUM, then the DIFFERENCE of those values.

**Dump: D [range]**

**D [address] [length]**

Displays the contents of a block of memory.

**Search: S range list**

Searches within a range of addresses for a pattern of one or more byte values given in a list. The list can be comprised of numbers *or character strings enclosed by matching single or double quote marks.*

**Compare: C range address**

Compares two blocks of memory. If there are no differences, then DEBUG simply displays another prompt (-).

**Fill: F range list**

This command can also be used to *clear* large areas of Memory as well as *filling* smaller areas with a continuously repeating phrase or single byte.

**Enter: E address [list]**

Used to enter data or instructions (as *machine code*) directly into Memory locations.

**Go: G [=address] [addresses]**

Go is used to run a program and set *breakpoints* in the program's code.

**Unassemble: U [range]**

***Disassembles***machine instructions into 8086 Assembly code.

**Input: I port**

The use of I/O commands while running

**Load:**

**L [address] [drive] [firstsector] [number]**

This command will LOAD the selected number of sectors from any disk's Logical Drive under the control of MS-DOS or Windows into Memory.

**Move: M range address**

This command should really be called: COPY (not Move) as it actually *copies* all the bytes from within the specified **range** to a new **address**.

**Name: N [pathname] [arglist]**

This command can be used to load files into DEBUG's Memory *after* you have started the program, but it's main function is to create a new file under control of the Operating System which DEBUG can WRITE data to.

**Register: R [register]**

Entering ' r ' all by itself will display *all* of the 8086 register's contents *and* the next instruction which the IP register points to in both machine code and an unassembled (Assembly Language) form.

**Trace: T [=address] [number]**

The T command is used to trace (step through) CPU instructions one at a time. If you enter the T command all by itself, it will step through only ONE instruction beginning at the location specified by your CS:IP registers, halt program execution and then display all the CPU registers plus an unassembled version of the next instruction to be executed.

**Proceed: P [=address] [number]**

*Proceed* acts exactly the same as Debug's T (Trace) command for most types of instructions... EXCEPT: *Proceed* will immediately execute ALL the instructions (rather than stepping through each one) inside any Subroutine CALL, a LOOP, a Repeated string instruction or any software Interrupts.

**Write:**

**W [address] [drive] [firstsector] [number]**

The WRITE (W) command is often used to save a program to your hard disk from within DEBUG.