# Lab 3.C – More Addressing Modes

## DESCRIPTION

The goal of this experiment is to continue the study of memory partitions and addressing modes. This is accomplished in the same manner as Closed Lab 2 by creating specific items in memory and then executing instructions which operate on those items.

The following information represents memory setup and processor registers. Your task is to determine the changes in all respects caused by executing the given instructions. You are to compute the results of the following instructions prior to the lab on pencil and paper. Those results are to be turned in at the end of the lab along with all other required materials.

**REGISTERS MEMORY**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | A1 | 00000000 | 2100 | 44434241 |
|  | D0 | 00000000 |  | 00000000 |
|  | D1 | 00000000 |  | 25530000 |
|  | D2 | 00000000 |  | 01EF0000 |
|  | D3 | 00000000 |  | FFFFCCCC |
|  | D4 | 00000000 |  | 87652222 |
|  | D5 | 00000000 |  | BBBB3333 |
|  | D6 | 00000000 |  | ABCDEF00 |
|  | D7 | 00000000 |  |  |

**INSTRUCTIONS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 002010 | 43F82100 | LEA | $002100,A1 |
|  | 002014 | 2E3C0000000A | MOVE.L | #10,D7 |
|  | 00201A | 701B | MOVEQ | #27,D0 |
|  | 00201C | 123C001B | MOVE.B | #27,D1 |
|  | 002020 | 143CFFE4 | MOVE.B | #-28,D2 |
|  | 002024 | 363C03E9 | MOVE.W | #1001,D3 |
|  | 002028 | 283C01010101 | MOVE.L | #$01010101,D4 |
|  | 00202E | 1A317010 | MOVE.B | 16(A1,D7),D5 |
|  | 002032 | 1C3A00DC | MOVE.B | $002110(PC),D6 |

You are to actually execute your instructions in Trace mode. That is, each instruction will be executed one at a time at your command from the keyboard. At the end of the closed lab hour, you must turn in the pencil and paper results as well as the Trace mode listing