

LD (0010) Instruction Cycle

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0010				DR				PCoffset9							

Instruction Fetch

MAR $\leftarrow$ **PC**

PC $\leftarrow$ **PC** + 1

MDR $\leftarrow$ **memory**[**MAR**]

IR $\leftarrow$ **MDR**

Decode

IR[15:12] decoded

Evaluate Address

MAR $\leftarrow$ **PC** + **sign_ext**₁₆(**IR**[8:0])

Operand Fetch

MDR $\leftarrow$ **memory**[**MAR**]

Execute

n/a

Store Result

R_{**IR**[11:9]} $\leftarrow$ **MDR**