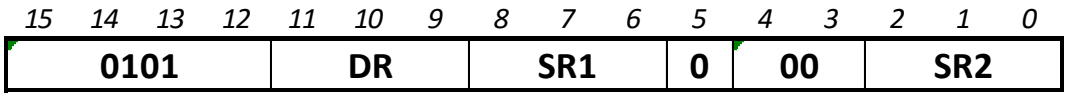
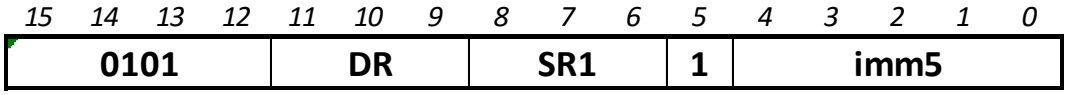
AND (0101) Instruction Cycle





Instruction Fetch

MAR ← PC

PC ← PC + 1

MDR ← memory[MAR]

IR ← MDR

Decode

IR[15:12] decoded

Evaluate Address

n/a

Operand Fetch

$\mathbf{ALU_{INA} \leftarrow R_{IR[8:6]}}$

$\mathbf{ALU_{INB} \leftarrow (IR[5]\ ?\ sign\_ext_{16}(IR[4:0])\ :\ R_{IR[2:0]})}$

Execute

$\mathbf{ALU_{OUT} \leftarrow ALU_{INA}\ and\ ALU_{INB}}$

Store Result

$\mathbf{R_{IR[11:9]} \leftarrow ALU_{OUT}}$