

Instruction	Reg2Loc	ALUSrc	MemtoReg	RegWrite	MemRead	MemWrite	Branch	UncondBranch	ALUOp	SignOp	ImmToReg
AND	0	0	0	1	0	0	0	0	0000	xxx	0
ORR	0	0	0	1	0	0	0	0	0001	xxx	0
ADD	0	0	0	1	0	0	0	0	0010	xxx	0
SUB	0	0	0	1	0	0	0	0	0110	xxx	0
ADDI	x	1	0	1	0	0	0	0	0010	000	0
SUBI	x	1	0	1	0	0	0	0	0110	000	0
LDUR	x	1	1	1	1	0	0	0	0010	001	0
STUR	1	1	0	0	0	1	1	0	0010	001	0
CBZ	1	0	x	0	0	0	1	0	0111	011	0
B	x	x	x	0	0	0	x	1	xxxx	010	0
MOVZ	0	1	0	1	0	0	0	0	0111	100	1

To add the MOVZ function: add a mux to choose from the output of the Sign-Extension module and output of the MemToReg mux. This also needs a control signal to choose the path to send our immediate value with 0's to write register, we will name the control signal "ImmToReg". All other instructions will have this mux set to 0, as only MOVZ will use this.