Fetch Instruction:

RTN Control Signals

PC 🡪 MAR DPC=1 LMAR=1

M[MAR] 🡪 IR SEL,LD,MC,DM,LIR =1

PC +1 🡪 PC PCP,LPC=1

**ADD RD, RS1, RS2**

RTN Control Signals

RS1 🡪 RegA MX1,DE1,DBUFFER,LA=1

RS2 🡪 RegB MX1=0, DE1,DBUFFER, LB=1

RegA + RegB 🡪 RD DALU, DE2,LRD=1

**AND Rd, Rs1, Rs2**

RTN Control Signals

RS1 🡪 RegA MX1,DE1,DBUFFER,LA=1

RS2 🡪 RegB MX1=0, DE1,DBUFFER, LB=1

RegA && RegB 🡪 RD DALU, DE2,LRD=1

**OR Rd, Rs1, Rs2**

RTN Control Signals

RS1 🡪 RegA MX1,DE1,DBUFFER,LA=1

RS2 🡪 RegB MX1=0, DE1,DBUFFER, LB=1

RegA || RegB 🡪 RD DALU, DE2,LRD=1

**Load Instruction (This Load doesn’t support an offset)**

RTN Control Signals

RegS 🡪 MAR MX1, DE1,DBUFFER,LMAR =1

M[MAR] 🡪 Rd SEL,LD,MC,DM,DE2,LRD=1