|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | R-Type | I-Type | Load Imm. | Jump | Branch |
| Inst. Fetch |  | IR = Mem[PC]  PC=PC+1 |  |  |  |
| Inst. Decode  Reg. Fetch | AiA = Reg[IR[7:5]]  AiB = Reg[IR[4:2]] | AiA = Reg[$m]  AiB = SE[IR[11:0]] | Reg[0]=IR[11:0] | PC=PC[15:12]+IR[11:0] | AiA = Reg[0]  AiB = Reg[IR[11:9]] |
| Execution | ALUout = AiA opAiB |  | Load Imm Done | Jump Done | If (AiA == AiB)  Then: PC = PC + IR[8:0]  Else: PC = PC |
| Mem Access | Reg[0]=ALUout |  |  |  | Branch Done |

Register Transfer Language

\*Ai = ALUin