A-Type

|  |  |  |  |
| --- | --- | --- | --- |
| MemRead = 1 IOD = 0 IRWrite = 1  PCWrite = 0  MemWrite = 0  Regwrite = 0 | PCWrite = 1  PCSrc = 1  IRWrite = 0 ASA = 0 ASB = 2  OP = Add | ASA = 1 ASB = 3 ALUOutC = 1 | RegWrite = 1 MTD = 0 |

R-Type

|  |  |  |  |
| --- | --- | --- | --- |
| MemRead = 1 IOD = 0 IRWrite = 1  PCWrite = 0  MemWrite = 0  Regwrite = 0 | R PCWrite = 1  PCSrc = 1  IRWrite = 0 ASA = 0 ASB = 2  OP = Add | ASA = 1 ASB = 0 ALUOutC = 1 | RegWrite = 1 MTD = 0 |

Lw/sw

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| MemRead = 1 IOD = 0 IRWrite = 1  PCWrite = 0  MemWrite = 0  Regwrite = 0 | PCWrite = 1  PCSrc = 1  IRWrite = 0 ASA = 0 ASB = 2  OP = Add | ASA = 1 ASB = 1 ALUOutC = 1 | MemRead MemWrite IOD = 1 | RegWrite = 1 MTD = 1 |

Beq/Bne

|  |  |  |  |
| --- | --- | --- | --- |
| MemRead = 1 IOD = 0 IRWrite = 1  PCWrite = 0  MemWrite = 0  Regwrite = 0 | PCWrite = 1  PCSrc = 1  IRWrite = 0 ASA = 0 ASB = 2  OP = Add | ASA = 0 ASB = 1 ALUOutC = 1 | ASA = 1 ASB = 0 PCWrite = 1 PCSrc = 1 |

J/jal

|  |  |  |
| --- | --- | --- |
| MemRead = 1 IOD = 0 IRWrite = 1  PCWrite = 0  MemWrite = 0  Regwrite = 0 | PCWrite = 1  PCSrc = 1  IRWrite = 0 ASA = 0 ASB = 2  OP = Add | RegWrite = 1 PCSrc = 0 |

I-Type

|  |  |  |  |
| --- | --- | --- | --- |
| MemRead = 1 IOD = 0 IRWrite = 1  PCWrite = 0  MemWrite = 0  Regwrite = 0 | PCWrite = 1  PCSrc = 1  IRWrite = 0 ASA = 0 ASB = 2  OP = Add | ALUOutC = 1  ASA = 1  ASB = 3 | RegWrite = 1  ALUOutC = 0  MTD = 0 |

Jr

|  |  |  |  |
| --- | --- | --- | --- |
| MemRead = 1 IOD = 0 IRWrite = 1  PCWrite = 0  MemWrite = 0  Regwrite = 0 | PCWrite = 1  PCSrc = 1  IRWrite = 0 ASA = 0 ASB = 2  OP = Add | ASA = 1 ASB = 3 ALUOutC = 1 | PCWrite = 1 PCSrc = 2 |