Current working ALU design for Group 9

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Flags

|  |  |
| --- | --- |
| carry\_f | 3'd4; |
| low\_f | 3'd3; |
| overflow\_f | 3'd2; |
| zero\_f | 3'd1; |
| negative\_f | 3'd0; |

Baseline instructions

Opcodes

|  |  |
| --- | --- |
| ADD | 8'b00000101 |
| ADDI | 8'b0101xxxx |
| ADDU | 8'b00000110 |
| SUB | 8'b00001001 |
| SUBI | 8'b1001xxxx |
| CMP | 8'b00001011 |
| CMPI | 8'b1011xxxx |
| AND | 8'b00000001 |

|  |  |
| --- | --- |
| ANDI | 8'b0001xxxx |
| OR | 8'b00000010 |
| ORI | 8'b0010xxxx |
| XOR | 8'b00000011 |
| XORI | 8'b0011xxxx |
| MOV | 8'b00001101 |
| MOVI | 8'b1101xxxx |
| LSH | 8'b10000100 |

|  |  |
| --- | --- |
| LSHI | 8'b1000000x |
| ASHU | 8'b10000110 |
| ASHUI | 8'b1000001x |
| LUI | 8'b1111xxxx |
| LOAD | 8'b01000000 |
| STOR | 8'b01000100 |
| Bcond | 8'b1100xxxx |
| Jcond | 8'b01001100 |

|  |  |
| --- | --- |
| JAL | 8'b01001000 |

What needs to be turned in?

What else is expected for diagrams, word lab report etc?

Need help with load, store, jump and link?

Double Check our shifts?