Arithmetic and Logical Instructions

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| Instruction | Operation | Opcode/Function | Syntax | Instruction Encodings |
| add $d, $s, $t | $d=$s+$t | 100000 | ArithLog | 000000ssssstttttddddd00000100000 |
| addi $t, $s, i | $t = $s + SE(i) | 001000 | ArithLogI | 001000ssssstttttiiiiiiiiiiiiiiii |
| sub $d, $s, $t | $d=$s-$t | 100010 | ArithLog | 000000ssssstttttddddd00000100010 |
| and $d, $s, $t | $d=$s&$t | 100100 | ArithLog | 000000ssssstttttddddd00000100100 |
| andi $t, $s, i | $t = $s & ZE(i) | 001100 | ArithLogI | 001100ssssstttttiiiiiiiiiiiiiiii |
| or $d, $s, $t | $d=$s|$t | 100101 | ArithLog | 000000ssssstttttddddd00000100101 |
| ori $t, $s, i | $t = $s | ZE(i) | 001101 | ArithLogI | 001101ssssstttttiiiiiiiiiiiiiiii |
| slt $d, $s, $t | $d = ($s < $t) | 101010 | ArithLog | 000000ssssstttttddddd00000101010 |
| slti $t, $s, i | $t = ($s < SE(i)) | 001010 | ArithLogI | 001010ssssstttttiiiiiiiiiiiiiiii |
| sw $t, i($s) | MEM [$s + i]:4 = $t | 101011 | LoadStore | 001010ssssstttttiiiiiiiiiiiiiiii |
| lw $t, i($s) | $t = MEM [$s + i]:4 | 100011 | LoadStore | 100011ssssstttttiiiiiiiiiiiiiiii |

SE = Sign-Extended, ZE=Zero-Extended