**Instruction Type**

1. R-Type:

op-code rs rt rd sh

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 4 | 3 | 3 | 3 | 3 |

1. I-Type (including J-Type):

Op-code rs rt imm/address

|  |  |  |  |
| --- | --- | --- | --- |
| 4 | 3 | 3 | 6 |

**Registers**

|  |  |  |
| --- | --- | --- |
| SN. | Name | Bin. Value |
| 1 | $zero | 000 |
| 2 | $t0 | 001 |
| 3 | $t1 | 010 |
| 4 | $t2 | 011 |
| 5 | $t3 | 100 |
| 6 | $s0 | 101 |
| 7 | $s1 | 110 |
| 8 | $s2 | 111 |

**Operations Type**

R-Type Operations:

|  |  |  |  |
| --- | --- | --- | --- |
| SN. | Name | Op-code | Type |
| 1 | Add | 0001 | R-Tyepe Operations |
| 2 | Sub | 0010 |
| 3 | And | 0011 |
| 4 | or | 0100 |
| 5 | Sll | 0101 |
| 6 | Srl | 0110 |
| 7 | Slt | 0111 |
| 8 | Addi | 1001 | I-Type  Operations  (Including J-Type) |
| 9 | Lw | 1010 |
| 10 | Sw | 1011 |
| 11 | Beq | 1100 |
| 12 | Bne | 1101 |
| 13 | j | 1111 |