**How Instructions Work:**

While(1){

Fetch instruction

Decode instruction

Execute instruction

}

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Address** | **Binaries** | **Machine Code** | **R0** | **R1** | **R2** | **R3** |
| 0000 0000 | 0000 1011 1111 |  |  |  |  |  |
| 0000 0001 | 0000 1111 0111 |  | 0 | 0 | 0 | 0 |
| 0000 0010 | 1011 0000 0100 | Add 4 to R3 | 0 | 0 | 4 | 4 |
| 0000 0011 | 0110 1111 0101 | Store 4 at this address | 0 | 0 | 4 | 4 |
| 0000 0100 | 0011 1111 0101 | Load 4 into R3 | 0 | 0 | 4 | 4 |
| 0000 0101 | 1011 0000 0111 | Add 7 to R3 | 0 | 0 | 4 | 11 |
| 0000 0110 | 1101 0101 0101 | stop | 0 | 0 | 4 | 11 |