|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| PC | Func | Instruction | Coding | Example | |
| PC ++ | Rx = Rx+imm | Init Rx, imm imm = [0:15] | 000 xx iiii | Init R1, 1 | 0 000 01 01 |
| PC ++ | Rx = M[Ry] | Load Rx, Ry | 001 xx yy | Load R1, R2 | 1 001 01 10 |
| PC ++ | M[Ry] = Rx | Store Rx, Ry | 010 xx yy | Store R1, R2 | 1 010 01 10 |
| PC ++ | Rx = Rx + Ry | Add Rx, Ry | 011 xx yy | Add R1, R3 | 1 011 01 11 |
| PC ++ | Rx = Rx - Ry | Sub Rx, Ry | 100 xx yy | Sub R2, R0 | 1 100 11 00 |
| PC ++ | If Rx<Ry -> R0 = 1; else R0 = 0 | SLT Rx, Ry | 101 xx yy | SLT R0, R2 | 0 101 00 11 |
| PC ++ | Rx = Rx>>1 | Shl Rx | 10100 xx | Shl R1 | 1 10100 01 |
| PC ++ | Rx = Rx <<1 | Shr Rx | 10101 xx | Shr R3 | 1 10101 11 |
|  | If R0 = 1 -> PC = PC + imm; PC = PC++ | Beq imm | 1011 iii | Beq 4 | 0 1011 111 |
| PC = PC + imm | PC = PC + imm | J imm | 1000 iii | J 3 | 0 1000 111 |
| PC ++ | Rx = Rx XOR Ry | XOR Rx, Ry | 110 xx yy | XOR R2, R1 | 0 110 10 01 |
| Stop |  | End | 1 1111111 |  |  |

ISA Design: