|  |  |  |  |
| --- | --- | --- | --- |
| **Instruction** | **Encoding** | **Operation** | **Comment** |
| loadA | 0000xxaaaaaa | A🡨RAM[aaaaaa] |  |
| storeA | 0001xxaaaaaa | RAM[aaaaaa]🡨A |  |
| addA | 0010xxaaaaaa | A🡨A+RAM[aaaaaa] |  |
| subA | 0011xxaaaaaa | A🡨A-RAM[aaaaaa] |  |
| inA | 0100xxxxxxxx | A🡨Din |  |
| outA | 0101xxxxxxxx | Dout🡨A |  |
| jpos | 0110xxaaaaaa | If(A>0) then PC=aaaaaa |  |
| jneg | 0111xxaaaaaa | If(A<0) then PC=aaaaaa |  |
| jz | 1000xxaaaaaa | If(A==0) then PC=aaaaaa |  |
| jnz | 1001xxaaaaaa | If(A!=0) then PC=aaaaaa |  |
| jmp | 1010xxaaaaaa | PC=aaaaaa |  |
| halt | 1011xxxxxxxx | halt |  |

**ISA: Instruction Set Architecture:**

x: don’t care