







LDA 0000 \rightarrow load address 0100
 STA 0001 \rightarrow store.
 ADD 0010 \rightarrow add
 SUB 0011 \rightarrow subtraction
 JMP 0100 \rightarrow unconditional jump
 OUT 0101 \rightarrow out from bus.
 HLT 0110 \rightarrow output

Fetch

Increment PC

Execute

Fetch: ① load command value to MAR
② Load content of memory by MAR

Increment program counter.

LDA: Load address in MAR
Load content to A register.

STA: Load address
Load reg-A to memory

ADD: Load address
Load command to B
Perform add by enable ALU
Disable ALU.
Store result ALU to A register

LDA: Load address in MAR
Load content to A register.

STA: Load address.
Load reg-A to memory

ADD: Load address
Sub Load content to B
Perform add by enable ALU
disable alu.
Store result ALU to A register

JMP: Load address to program counter

OUT: Load address.
Load content in OUT register

HLLT: Stop all

0000000110000000

IR

bus 88880000; ↓ PC
00001110; 00001110
1
2