How Loop command works in machine cycle :

1. Instruction fetch

2. Address fetch

3. Operand fetch

4. Execution

5. Interrupt

**Instruction fetch**

1) instruction pointer register(IP) ->memory buffer register( BR), AR

Instruction pointer IP content by ALU is written to BR and AR.

2) BR + 1 -> IP

The content of BR is increased by 1 and is written to IP, at the same time the content is read to DR.

3) DR -> CR

(Data register) DR content via ALU is written to (counter register)CR

**Operand fetch cycle:**

1) DR -> AR

DR (operand address from the instruction) are forwarded to AR(accumulator

**Execution cycle:**

1) AC + DR -> AC, N, Z, V, C

The DR content at the right input of the ALU is added to the content of the AC at the left input of the ALU and is written to the AC. Result signs N, Z, V, C will be zeroed.