Program 5: Shift left 8-bit number by 1 bit.

Flowchart:

```
                    ┌─────────────┐
                    │    Start    │
                    └──────┬──────┘
                           │
                           ▼
              ┌──────────────────────────┐
              │   Load accumulator with  │
              │  operand from memory.    │
              └────────────┬─────────────┘
                           │
                           ▼
              ┌──────────────────────────┐
              │  Shift left accumulator.  │
              │                          │
              └────────────┬─────────────┘
                           │
                           ▼
              ┌──────────────────────────┐
              │    Store the result from │
              │  accumulator to memory.   │
              └────────────┬─────────────┘
                           │
                           ▼
                    ┌─────────────┐
                    │    Stop     │
                    └─────────────┘
```
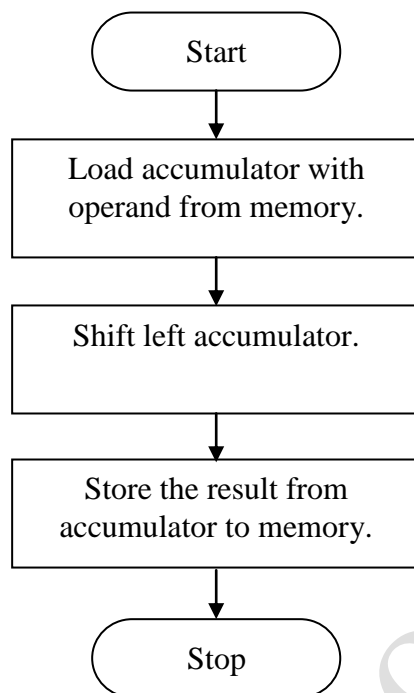
Program:

Address	Mnemonics	Operand	Opcode	Remarks
2000	LDA	3000H	3A	Load H-L pair with data from 3000H.
2001			00	Lower-order of 3000H.
2002			30	Higher-order of 3000H.
2003	RAL		17	Shift left accumulator.
2004	STA	3001H	32	Store the result at memory location 3001H.
2005			01	Lower-order of 3001H.
2006			30	Higher-order of 3001H.
2007	HLT		76	Halt.

Explanation:

- This program performs the left shift operation on an 8-bit number by one bit stored in memory location 3000H.

- Let us assume that the operand stored at memory location 3000H is 05H.

- The operand is moved to accumulator from memory location 3000H.

- Then, shift left operation is done by using RAL instruction.

- The result is stored at memory location 3001H.

Output:

Before Execution:

3000H: 05H

After Execution:

3001H: 0AH