

ROTATE RIGHT OPERATION

EXP NO: 19

AIM: To compute rotation of given data in right without carry using 8085 processor.

ALGORITHM:

- 1) Load the base address of the array in HL register pair.
- 2) Move the data from memory location into accumulator.
- 3) Shift right the accumulator content for four times left.
- 4) Store the result in the specified location.

PROGRAM:

LDA 2000

RRC

RRC

RRC

RRC

STA 2001

HLT

INPUT:

| Address (Hex) | Address | Data |
|---------------|---------|------|
| 07D0 | 2000 | 4 |
| 07D1 | 2001 | 64 |

OUTPUT:

The screenshot displays the GNUSim8085 - 8085 Microprocessor Simulator interface. The main window shows the program execution with the following assembly code loaded:

```
1 LDA 2000
2 RRC
3 RRC
4 RRC
5 RRC
6 STA 2001
7 HLT
8
```

The registers section shows the following values:

| Register | Value |
|----------|-------|
| A | 40 |
| BC | 00 00 |
| DE | 00 00 |
| HL | 00 00 |
| PSW | 00 00 |
| PC | 42 0B |
| SP | FF FF |
| Int-Reg | 00 |

The flags section shows the following values:

| Flag | Value |
|------|-------|
| S | 0 |
| Z | 0 |
| AC | 0 |
| P | 0 |
| C | 0 |

The memory section shows the following values:

| Address (Hex) | Address | Data |
|---------------|---------|------|
| 07D0 | 2000 | 4 |
| 07D1 | 2001 | 64 |
| 07D2 | 2002 | 0 |
| 07D3 | 2003 | 0 |
| 07D4 | 2004 | 0 |
| 07D5 | 2005 | 0 |
| 07D6 | 2006 | 0 |
| 07D7 | 2007 | 0 |
| 07D8 | 2008 | 0 |
| 07D9 | 2009 | 0 |
| 07DA | 2010 | 0 |
| 07DB | 2011 | 0 |
| 07DC | 2012 | 0 |
| 07DD | 2013 | 0 |

The assembler message window shows the following message:

```
Line No Assembler Message
0 Program assembled successfully
```

RESULT: Thus the program was executed successfully using 8085 processor simulator.