**Logical instructions in 8085 microprocessor**

* Difficulty Level : [Easy](https://www.geeksforgeeks.org/easy/)
* Last Updated : 22 May, 2018

Logical instructions are the instructions which perform basic logical operations such as AND, OR, etc. In 8085 microprocessor, the destination operand is always the accumulator. Here logical operation works on a bitwise level.

Following is the table showing the list of logical instructions:

Attention reader! Don’t stop learning now. Get hold of all the important CS Theory concepts for SDE interviews with the [**CS Theory Course**](https://practice.geeksforgeeks.org/courses/SDE-theory?vC=1) at a student-friendly price and become industry ready.

| OPCODE | OPERAND | DESTINATION | EXAMPLE |
| --- | --- | --- | --- |
| ANA | R | A = A AND R | ANA B |
| ANA | M | A = A AND Mc | ANA 2050 |
| ANI | 8-bit data | A = A AND 8-bit data | ANI 50 |
| ORA | R | A = A OR R | ORA B |
| ORA | M | A = A OR Mc | ORA 2050 |
| ORI | 8-bit data | A = A OR 8-bit data | ORI 50 |
| XRA | R | A = A XOR R | XRA B |
| XRA | M | A = A XOR Mc | XRA 2050 |
| XRI | 8-bit data | A = A XOR 8-bit data | XRI 50 |
| CMA | none | A = 1’s compliment of A | CMA |
| CMP | R | Compares R with A and triggers the flag register | CMP B |
| CMP | M | Compares Mc with A and triggers the flag register | CMP 2050 |
| CPI | 8-bit data | Compares 8-bit data with A and triggers the flag register | CPI 50 |
| RRC | none | Rotate accumulator right without carry | RRC |
| RLC | none | Rotate accumulator left without carry | RLC |
| RAR | none | Rotate accumulator right with carry | RAR |
| RAL | none | Rotate accumulator left with carry | RAR |
| CMC | none | Compliments the carry flag | CMC |
| STC | none | Sets the carry flag | STC |

In the table,  
R stands for register  
M stands for memory  
Mc stands for memory contents

Read related post: [Arithmetic instructions in 8085 microprocessor](https://www.geeksforgeeks.org/arithmetic-instructions-8085-microprocessor/)