MICROPROCESSOR

BCA 3RD SEMESTER 2020

LECTURE- 10

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DEPARTMENT OF COMPUTER SCIENCE

KHARAGPUR COLLEGE

8085 INSTRUCTION SET

- **DATA TRANSFER INSTRUCTIONS**
- **ARITHMETIC INSTRUCTIONS**
- **BRANCHING INSTRUCTIONS**
- **LOGICAL INSTRUCTIONS**
- **CONTROL INSTRUCTIONS**

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8085 INSTRUCTION SET

BRANCHING INSTRUCTIONS (Cont.)

RET Instruction

Return from subroutine unconditionally
RET none

Return from subroutine conditionally

Operand: none

Opcode	Description	Flag Status
RC	Return on Carry	CY = 1
RNC	Return on no Carry	CY = 0
RP	Return on positive	S = 0
RM	Return on minus	S = 1
RZ	Return on zero	Z = 1
RNZ	Return on no zero	Z = 0
RPE	Return on parity even	P = 1
RPO	Return on parity odd	P = 0

8085 INSTRUCTION SET

BRANCHING INSTRUCTIONS (Cont.)

PCHL Instruction

PCHL	none

Example: PCHL

8085 INSTRUCTION SET

BRANCHING INSTRUCTIONS (Cont.)

RST Instruction

RST	0-7

Instruction	Restart Address
RST 0	0000H
RST 1	0008H
RST 2	0010H
RST 3	0018H
RST 4	0020H
RST 5	0028H
RST 6	0030H
RST 7	0038H

Interrupt	Restart Address
TRAP	0024H
RST 5.5	002CH
RST 6.5	0034H
RST 7.5	003CH

8085 INSTRUCTION SET

LOGICAL INSTRUCTIONS

Compare register or memory with accumulator

CMP	R
	M

Example: CMP B or CMP M

Compare immediate with accumulator

CPI 8-bit data

Example: CPI 89H

8085 INSTRUCTION SET

LOGICAL INSTRUCTIONS (Cont.)

Logical AND register or memory with accumulator

ANA	R
	M

Example: ANA B or ANA M

Logical AND immediate with accumulator

ANI 8-bit data

Example: ANI 86H

8085 INSTRUCTION SET

LOGICAL INSTRUCTIONS (Cont.)

Exclusive OR register or memory with accumulator

XRA	R
	M

Example: XRA B or XRA M

Exclusive OR immediate with accumulator

XRI 8-bit data

Example: XRI 86H

8085 INSTRUCTION SET

LOGICAL INSTRUCTIONS (Cont.)

Logical OR register or memory with accumulator

ORA	R
	M

Example: ORA B or ORA M

Logical OR immediate with accumulator

ORI 8-bit data

Example: ORI 86H

8085 INSTRUCTION SET

LOGICAL INSTRUCTIONS (Cont.)

Rotate accumulator left

RLC none

Example: RLC

Rotate accumulator right

RRC none

Example: RRC

8085 INSTRUCTION SET

LOGICAL INSTRUCTIONS (Cont.)

Rotate accumulator left through carry

RAL none

Example: RAL

Rotate accumulator right through carry

RAR none

Example: RAR

8085 INSTRUCTION SET

LOGICAL INSTRUCTIONS (Cont.)

Complement accumulator

CMA none

Example: CMA

Complement carry

CMC none

Example: CMC

Set Carry

STC none

Example: STC

8085 INSTRUCTION SET

CONTROL INSTRUCTIONS

No operation

NOP none

Example: NOP

Halt and enter wait state

HLT none

Example: HLT

8085 INSTRUCTION SET

CONTROL INSTRUCTIONS

Disable interrupts

DI none

Example: DI

Enable interrupts

EI none

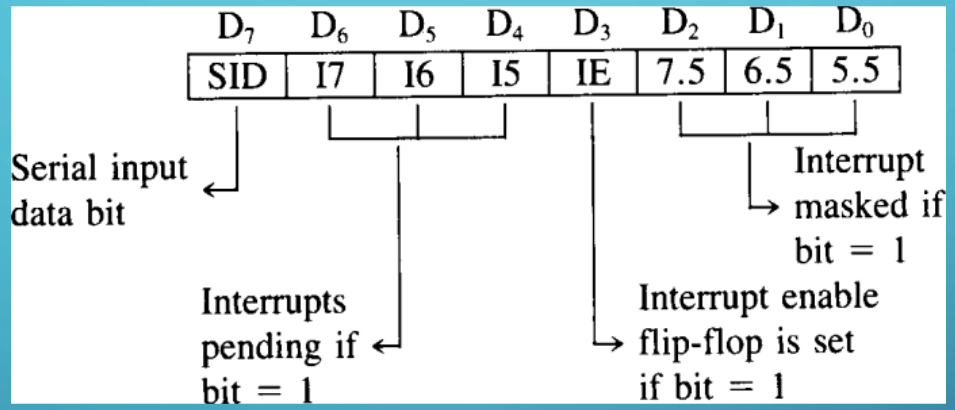
Example: EI

8085 INSTRUCTION SET

CONTROL INSTRUCTIONS

Read interrupt mask

RIM none

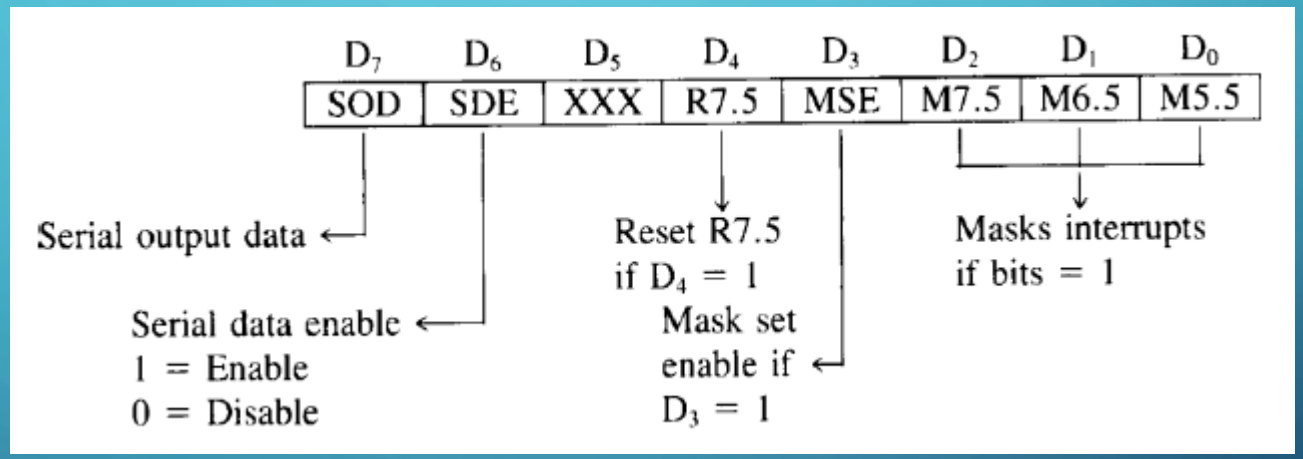


8085 INSTRUCTION SET

CONTROL INSTRUCTIONS

Set interrupt mask

SIM none



THANK YOU

End of Lecture- 10

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