MICROPROCESSOR
BCA 3RD SEMESTER 2020
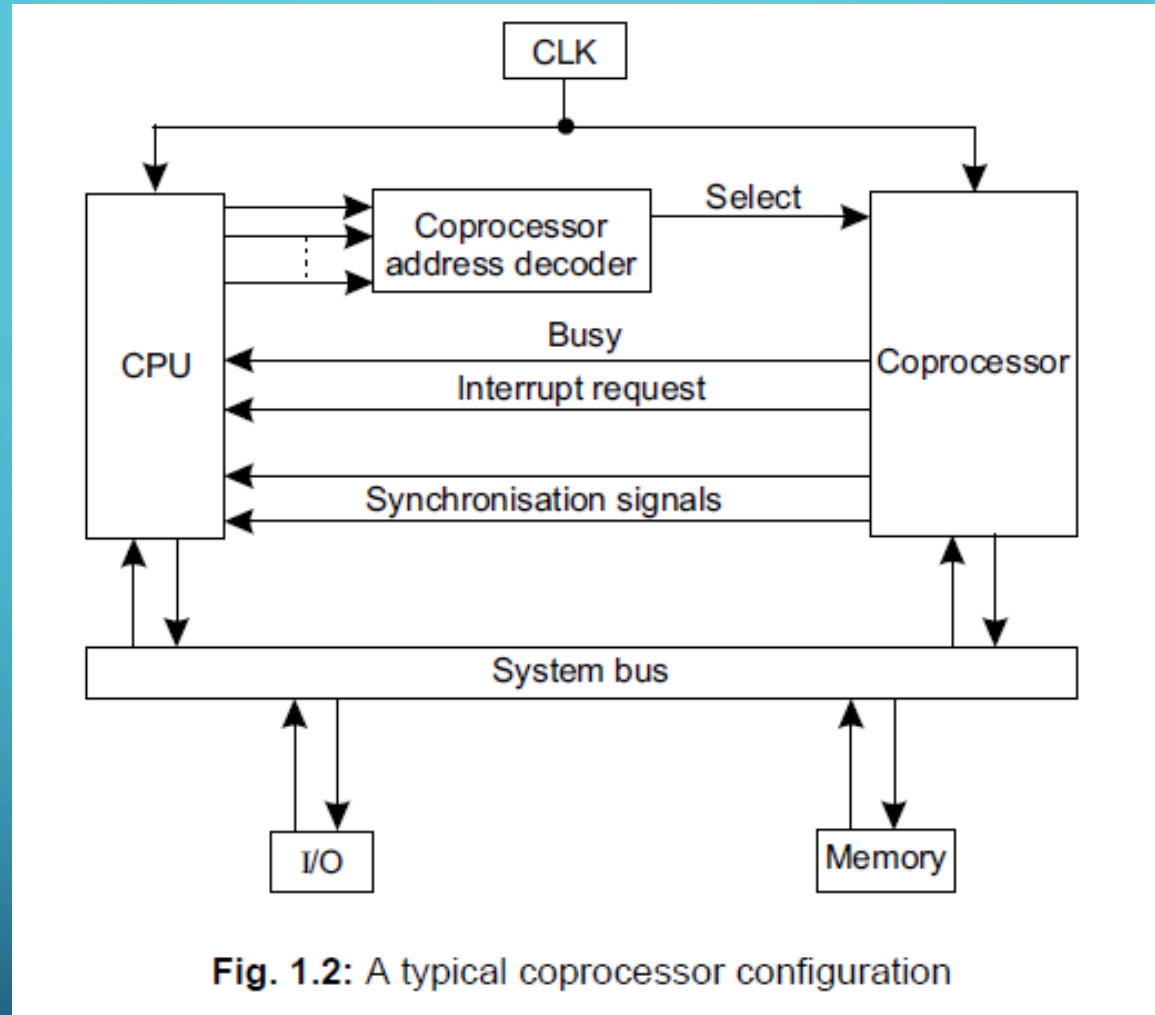## LECTURE- 5

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COPROCESSOR

- A coprocessor or an arithmetic coprocessor

- Performs operations like exponentiation, trigonometric functions, etc

COPROCESSOR (CONT.)

Fig. 1.2: A typical coprocessor configuration

COPROCESSOR (CONT.)

What is coprocessor trap?

THE TEMPORARY REGISTERS OF 8085

1. **W and Z registers**

2. **Temporary data register**

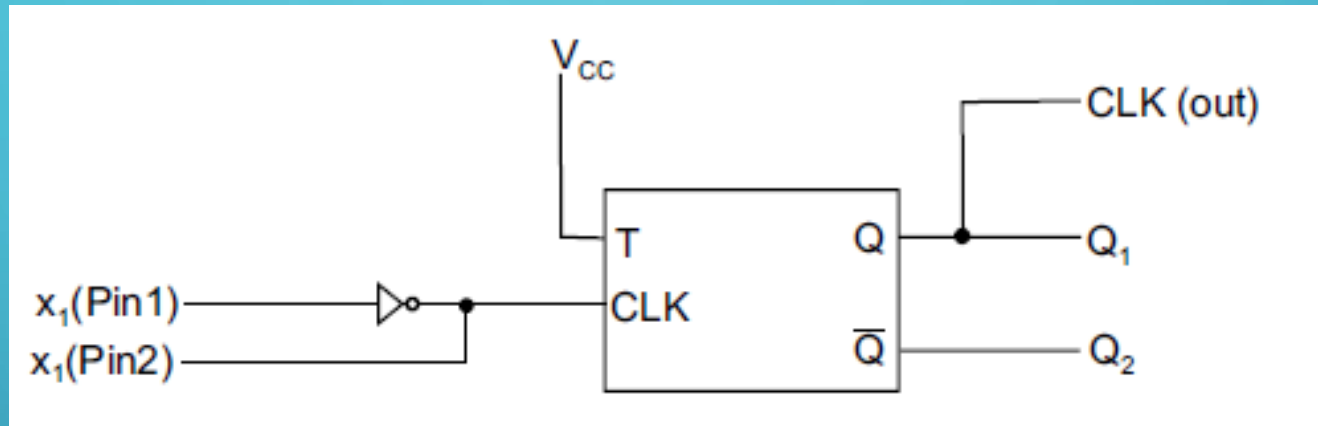Subhadip Mukherjee, Department of Computer Science, Kharagpur College

W AND Z REGISTERS

- W and Z are two 8-bit temporary registers, used to hold 8-bit data/address during execution of some instructions.

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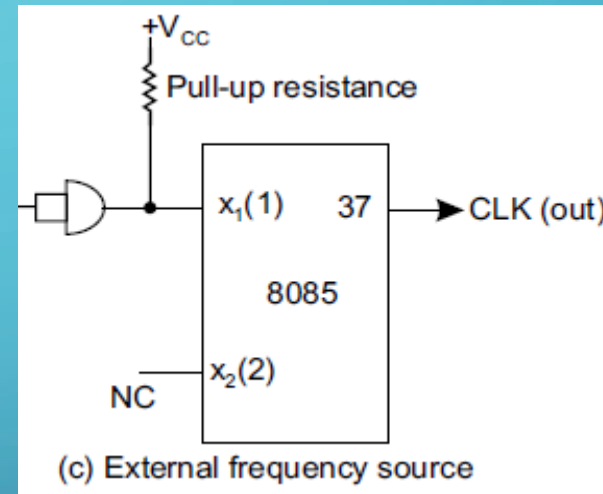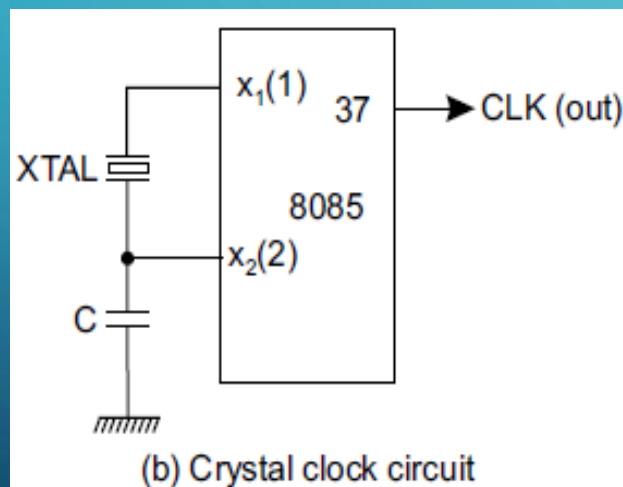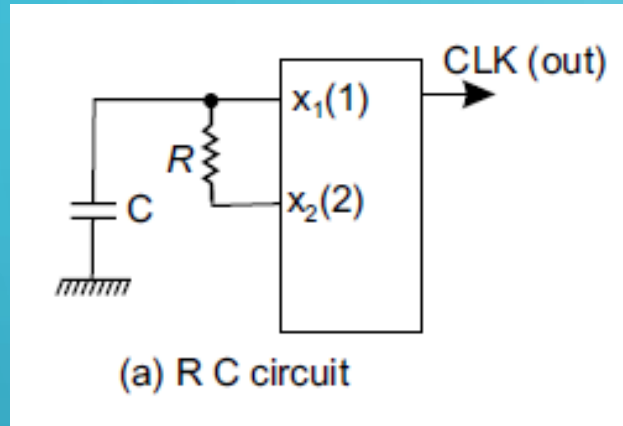
THE TEMPORARY DATA REGISTER

The temporary data register of 8085 is an 8-bit register, which is not available to the programmer, but is used internally for execution of most of the arithmetic and logical operations.
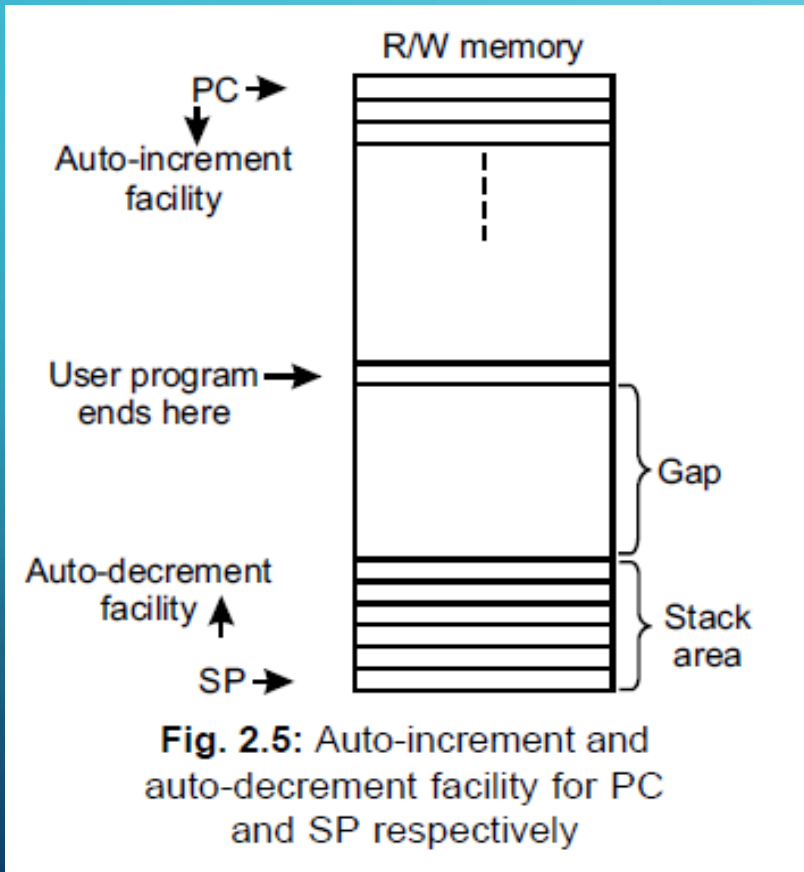
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BUILT-IN CLOCK GENERATOR

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(a) R C circuit

(b) Crystal clock circuit

(c) External frequency source

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PROGRAM COUNTER AND STACK POINTER

Fig. 2.5: Auto-increment and auto-decrement facility for PC and SP respectively

- **PC or Program Counter:**

PC acts as a address pointer (also known as memory pointer) to the next instruction
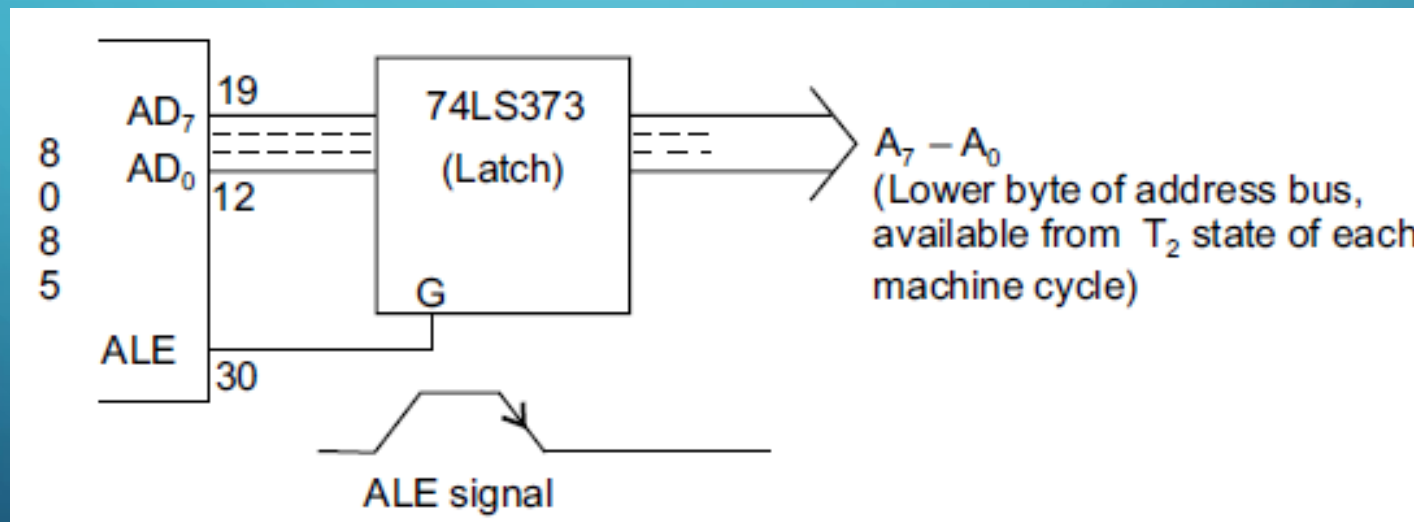
SP or Stack Pointer:

- Stack pointer (SP) is a sixteen bit register which points to the 'stack'.

ADDRESS LATCH ENABLE (ALE)

- *ALE signal is used to demultiplex the lower order address bus (AD0 – AD7).*

Pins 12 to 19 of 8085 are AD0 – AD7

- (A0 – A7) are available during T1 of machine cycle.

- (D0 – D7) are available during T2 of machine cycle.

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THANK YOU

End of Lecture- 5

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