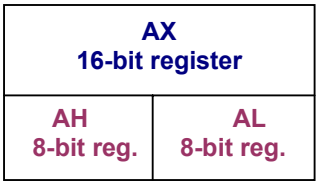
Registers of 8086 Microprocessor

- In the CPU, registers are used store information temporarily. The information can be one or two bytes of data, or the address of data.
- In 8088/8086 general-purpose registers can be accessed as either16-bit or 8-bit registers. All other registers can be accessed as full 16-bit registers.



- The bits of the registers are numbered in descending order:

8-bit register:

D7	D6	D5	D4	D3	D2	D1	D0

16-bit register:

D15	D14	D13	D12	D11	D10	D9	D8	D7	D6	D5	D4	D3	D2	D1	D0

- Different registers are used for different functions. Registers will be explained later within the context of instructions and their applications.
- The first letter of each general register indicates its use.
  - AX is used for the ***accumulator***.
  - BX is used for ***base addressing register***.
  - CX is used for ***counter loop operations***.
  - DX is used to point out ***data in I/O operations***.

Registers of 8086

Category	Bits	Register Names
General	16	**AX, BX, CX, DX**
	8	**AH, AL, BH, BL, CH, CL, DH, DL**
Pointer	16	**SP** (stack pointer), **BP**(base pointer)
Index	16	**SI** (source index), **DI**(destination index)
Segment	16	**CS** (code segment), **DS**(data segment) **SS** (stack segment), **ES**(extra segment)
Instruction	16	**IP** (instruction pointer)
Flag	16	**FR** (flag register)

- Note: the general registers can be accessed as full 16 bits (such as AX), or as the high byte only (AH) or low byte only (AL). The others are not!!