

CPU Registers

L-5

- Small storage inside CPU

↳ 2 types

- general purpose → (G.P.R)
- Special purpose → (S.P.R)

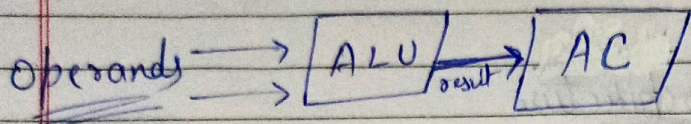
Special purpose Register

1. Accumulator (AC)
2. Program Counter (PC)
3. Instruction Register (IR)
4. Stack pointer (SP)
5. Flag Register / program status word (PSW)
6. Address Register (AR) / Memory address Register (MAR)
7. Data Register (DR) / Memory data Register (MDR / MBR)

↓
Memory buffer Register

* Accumulator

used to store result of ALU and sometimes one of the operand for ALU too



- ALU can have only 2 input at a time

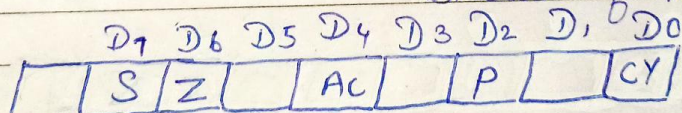
* Program Counter

- used to store the address of next instruction to be executed.

* Instruction Register → used to store current instruction.

* Stack pointer → used to store the address of the top of the stack

* Flag Register / Status Register → used to store status of ALU result.



also ^{called} Conditioning checker

* Address or Memory Address Register

used to send address to memory

Data & Memory Data Register
used to:

- send data to memory (memory write)
- to receive data from memory (memory read)

* Types of Architecture

Based on ALU input:

1. AC - based Architecture
2. Register based Architecture
3. " Memory based Architecture
4. Complex System Architecture
5. Stack based Architecture