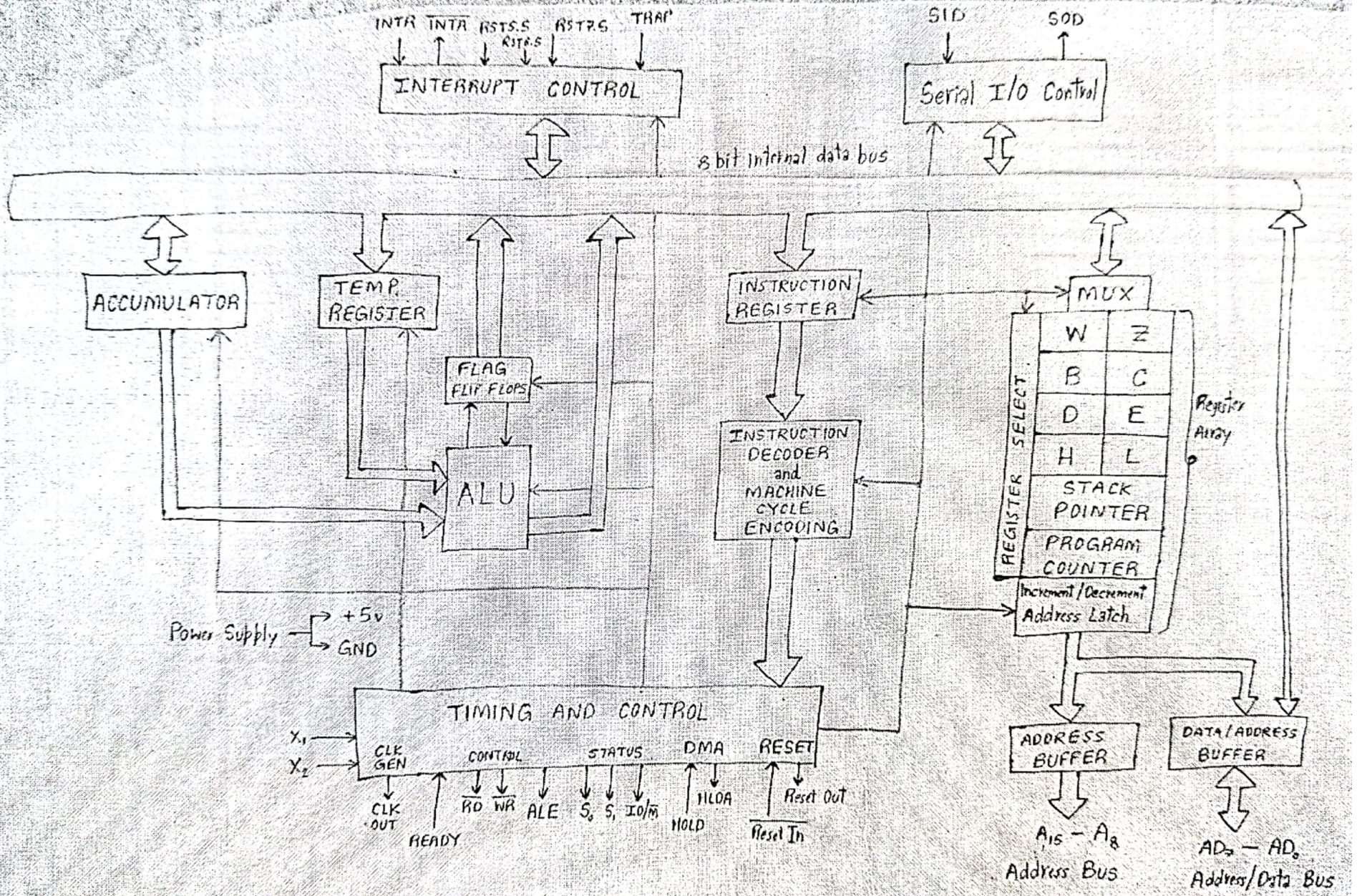


(2)- Control Unit →

→ Generates signals within MP to carry out the instructions, which has been decoded.

→ It consists of three parts -

(i)- Instruction register (IR)

(ii)- Instruction decoder and m/c cycle encoder

(iii)- Control and timing Unit.

(3)- ALU →

- Performs the actual numerical and logical operations such as 'add', 'subtract', 'AND', 'OR', etc.

→ consists of accumulator, flag register, and Temporary register.

* Accumulator -

→ 8-bit register.

→ Identified as register A

→ result of an operation is stored in accumulator.

→ Flags -

→ ALU includes five flip flops, which are set or reset after an operation according to the data conditions of the result in accumulator and other registers.

loading 16-bit address in the stack pointer.

Increment / Decrement Counter –

- Used to increment / decrement the contents of the various registers available in the register unit.
- eg - everytime µP accesses a memory, its PC register is incremented.

Mux / Demux Unit –

- used to select a register out of all the availabe registers.

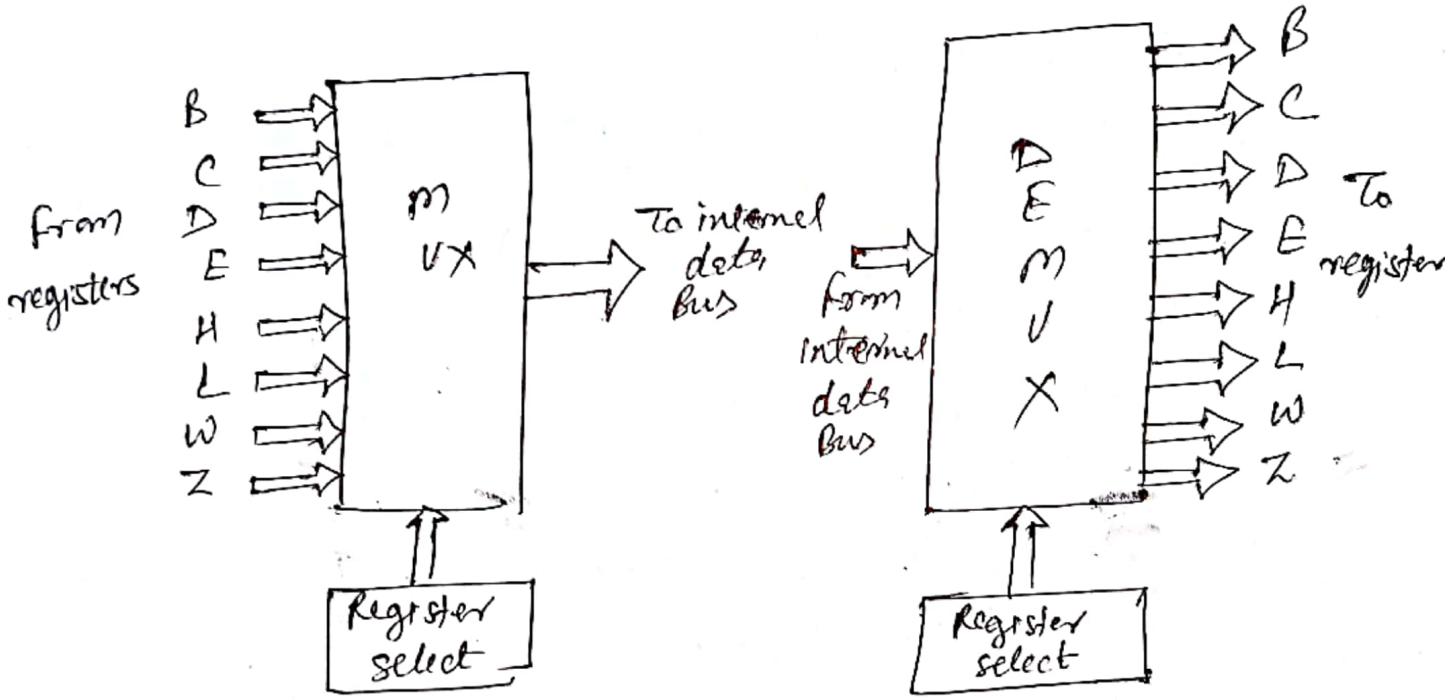


Fig- Mux / Demux Unit

- They are called zero (Z), carry (CY), sign (S), Parity (P) and Auxiliary Carry (AC) flags,
- The MP uses these flags to set and test data conditions.

D_7	D_6	D_5	D_4	D_3	D_2	D_1	D_0
S	Z	X	AC	X	P	X	CY

X → Not specified.

Fig:- format of flag register

P → even parity (1)
odd " (0)

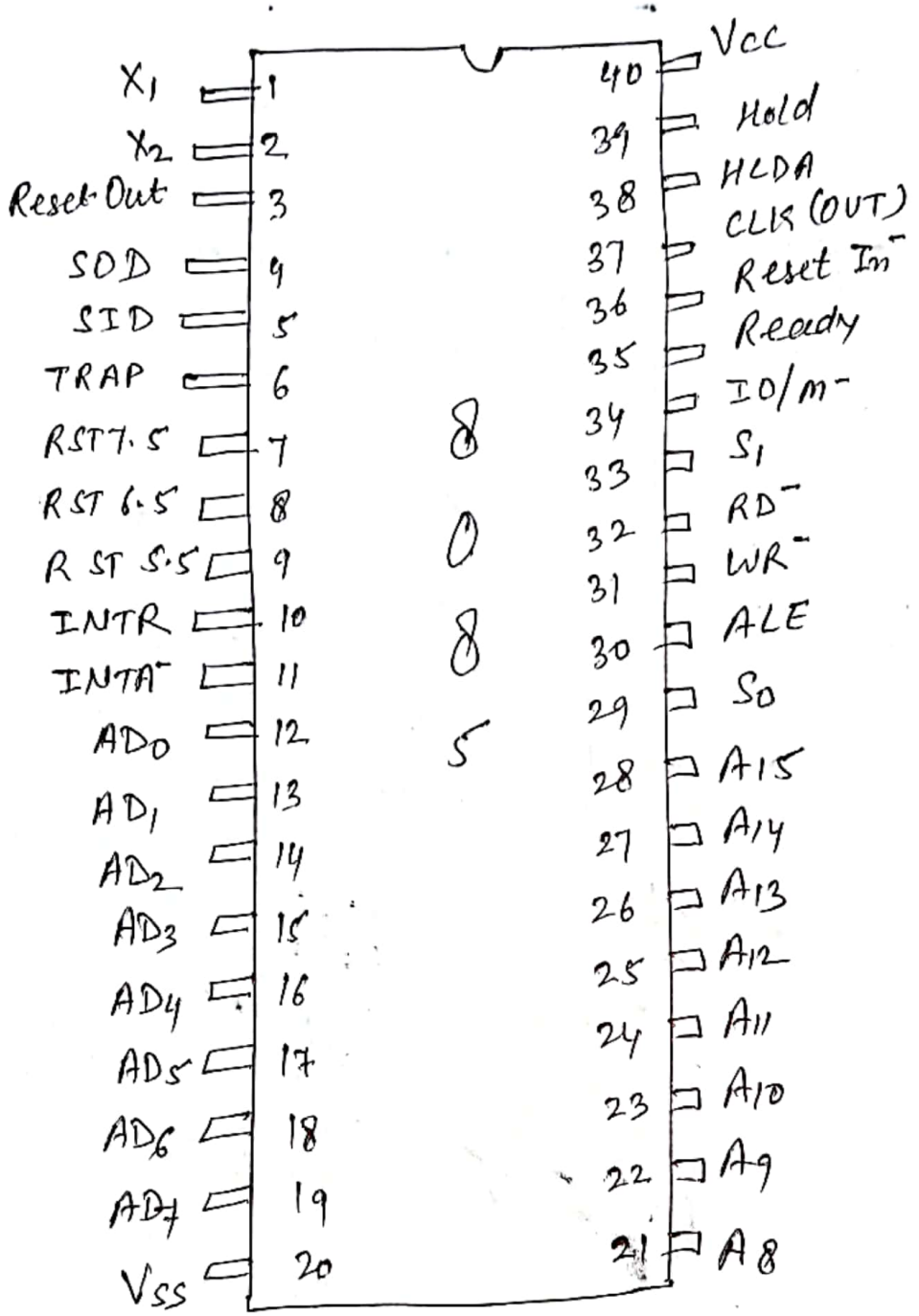
CY → set if carry / Borrow is generated.

S → 1 for -ve result
0 for +ve result.

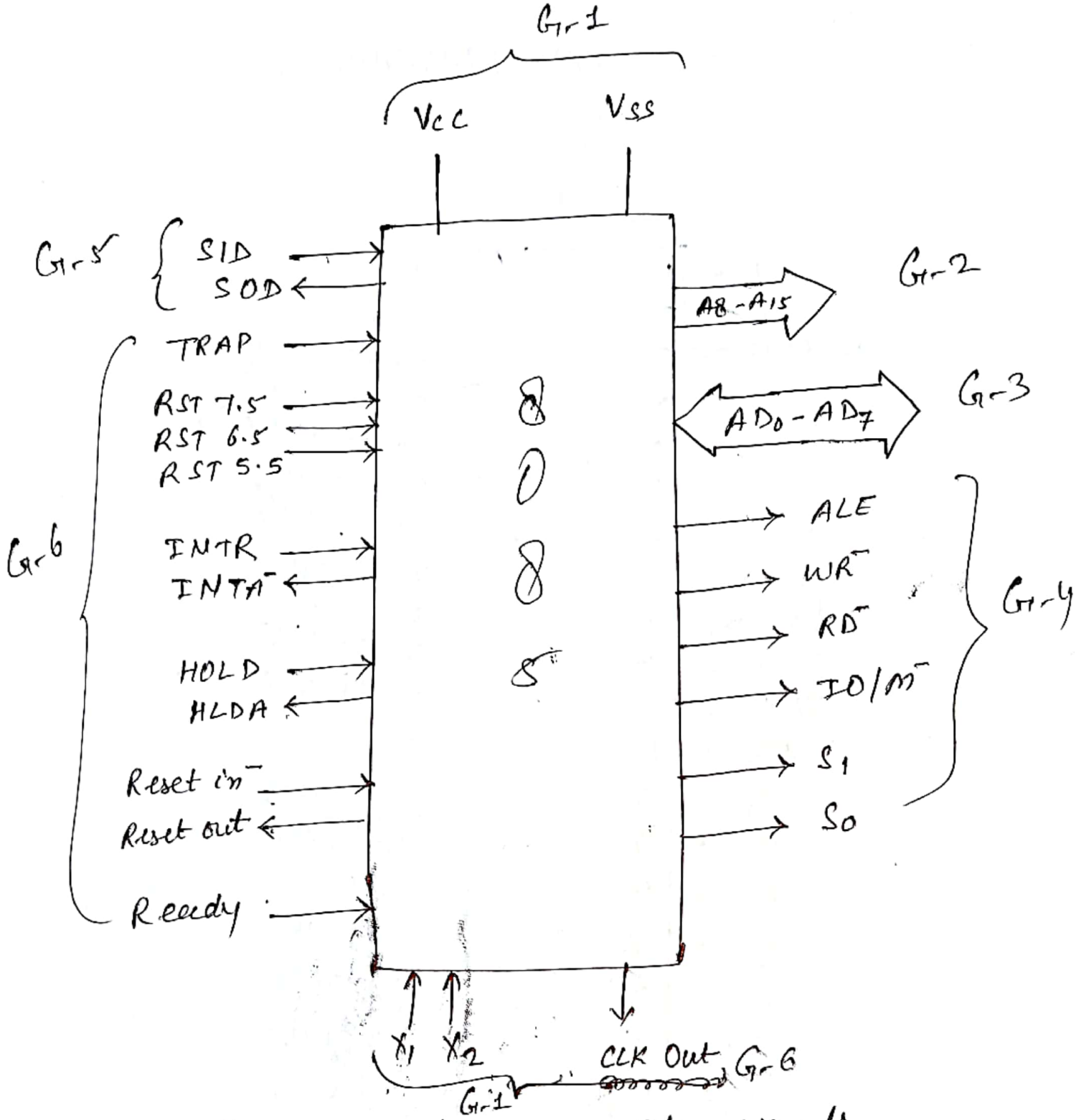
Z → 0, if result of operation is 0,

AC → 1, if carry propagates from D_3 to D_4.

8085 PIN DIAGRAM



→ 40 pin IC
→ operates at +5V and 3MHz.
→ 40 pins are divided into six groups according to their function.



1 → frequency and power supply signals.
2 → Higher order address bus
3 → Multiplexed Address / data bus
4 → Control and status signal.
5 → Serial I/O signals
6 → Externally or peripheral initiated signals.