Basic micro computer:

A micro comptors is a small sized, inexpensive and limited capability comptors. It has the same blocks that one present in a comptors, present day micro comptors one very small in size. they one of the size of a note book. I the days to come they one bound to become still smaller. They are very cheap so that many individuals can possess than as their personal comptors Because of mass production they are becoming still cheaper many early micro compute were not very powerful. For example they did not have even a simple multi instruction in their instruction set

Features of microprocessor:

micro processor is the cpu part of a micro computer and is available as a single integrated circuit thus a microprocessor will have the control unit and the ALU of a micro computer. An examplee is intel 8085 microprocessor. In addition to the microprocessor a micro computer will have the following:

* ROM/PROM/EPROM/EEPROM for storage program
* RAM for storing data, intermediate results, and final results.
* I/O device for communication with the outside world.
* I/O ports for communication with the I/O device.

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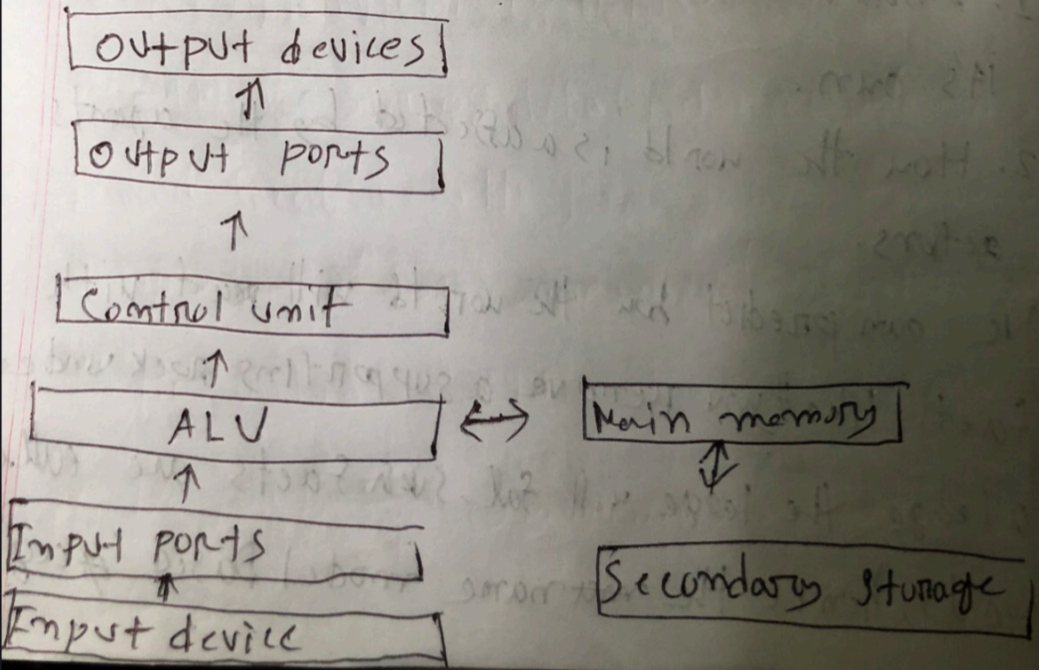
1 No. question Ans

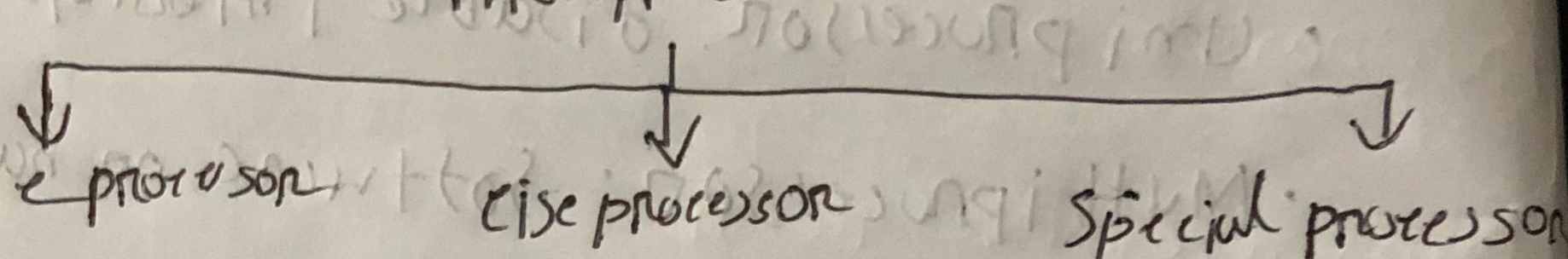
a

Block Diagram of a Basic microcomputer and features of microprocessor.



C

A microprocessor can be classified into three categories.



Risc processor: Risc stands for Reduced Instruction set computer. It is designed to reduce the execution time by simplifying the instruction set of the computer. Using Risc processor each instruction requires only one clock cycle to execute the result in uniform execution time. this reduces the efficiency as there are more lines of code hence more RAM is needed to store the instructions.

CISC Processor: CISC stands for Complex Instruction Set Computer. It is designed to minimize the number of instructions per program. ignoring the number of cycles per instruction. The emphasis is on building complex instructions directly into the hardware.

Special processors: these are the processors which are designed for same special ~~purp~~ purposes. ~~Few~~ Few of the special processors are briefly discussed.

Coprocessor: A coprocessor is a specially designed microprocessor, which can handle its particular function. many times faster than the ordinary microprocessor.

3 No question Ans

b

The corresponding memory chip or I/O device is selected by a decoding circuit. Memory requires some signals to read from and write to registers and microprocessor transmits some signals for reading or writing data the interfacing process includes matching the memory requirements with the microprocessor signals.

2 No questions Ans

a

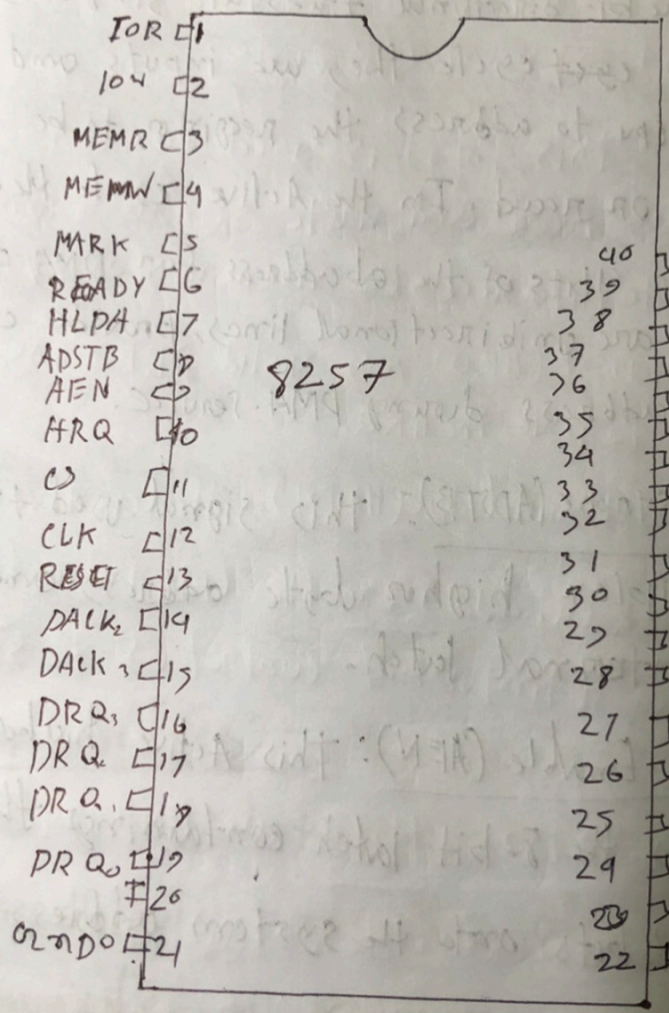
DMA operations are performed:

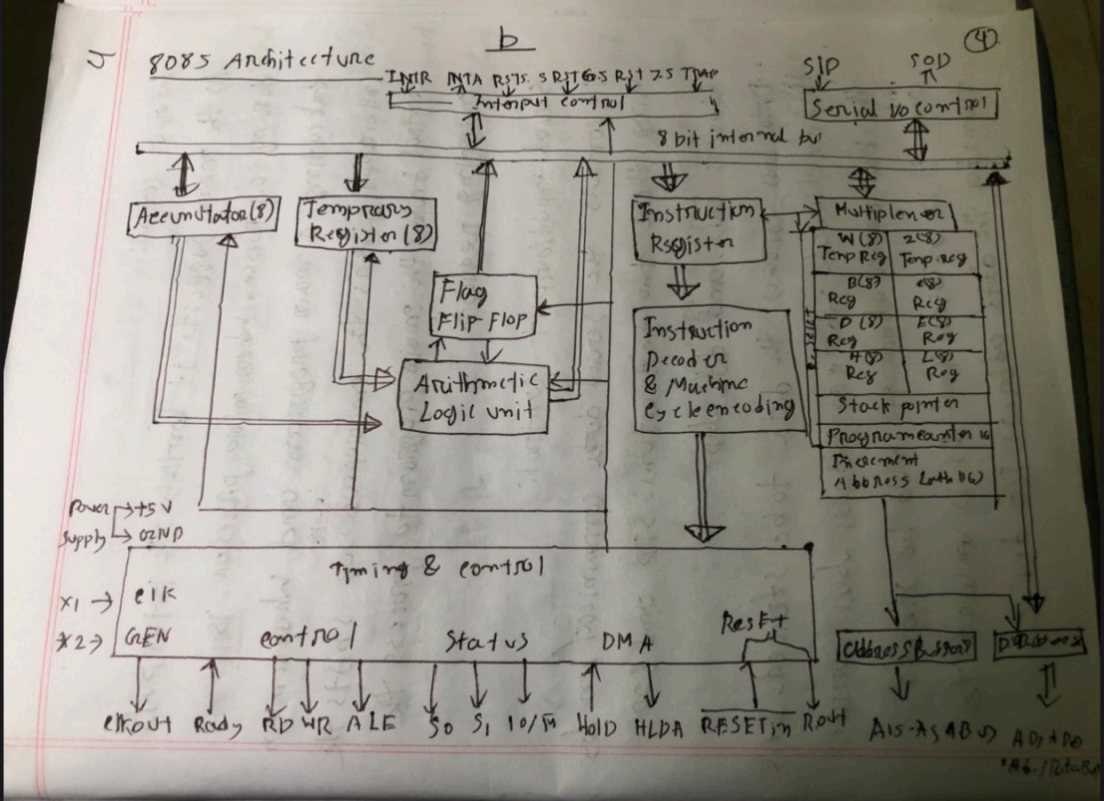
* Initially when any device has to send data between the device and the memory. the device has to send DMA controller.

* the DMA controller send Hold request (HRQ) to the cpu and waits for the cpu to assert the HLDA.

b

8257 pin diagram.




8085 Architecture
b
4
INTR INTA RST 5.5 RST 6.5 RST 7.5 TRAP
Interrupt control
SID
SOD
Serial I/O control
8 bit internal bus
Accumulator (8)
Temporary Register (8)
Flag Flip Flop
Arithmetic Logic unit
Instruction Register
Instruction Decoder & Machine cycle encoding
Multiplexer
W (8) Temp Reg
Z (8) Temp reg
B (8) Reg
C (8) Reg
D (8) Reg
E (8) Reg
H (8) Reg
L (8) Reg
Stack pointer
Program counter 16
Increment / Decrement (16)
Power supply
+5 V
GND
Timing & control
X1
X2
CLK
CLKOUT
READY
RD
WR
ALE
S0
S1
IO/M
HOLD
HLDA
RESET IN
RESET OUT
control
Status
DMA
Reset
Address Buffer
Data Buffer
A15 - A8 (A8 - A15)
AD7 - AD0