In the 8051, the stack pointer (SP) points to the last used location of the stack. When data is pushed onto the stack, the stack pointer (SP) is incremented by 1. When PUSH is executed, the contents of the register are saved on the stack and SP is incremented by 1.

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why data bus is bidirectional

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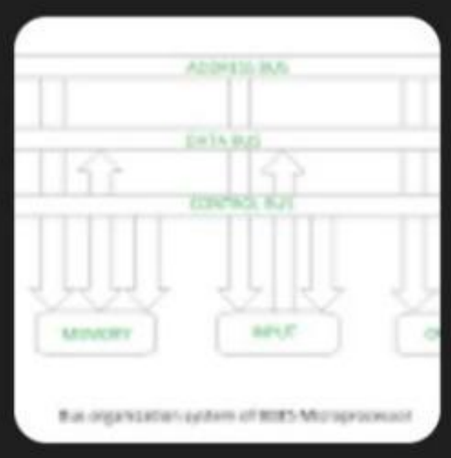

Data bus is bidirectional because data flow in both directions, from microprocessor to memory or Input/Output devices and from memory or Input/Output devices to microprocessor. 6 May 2023

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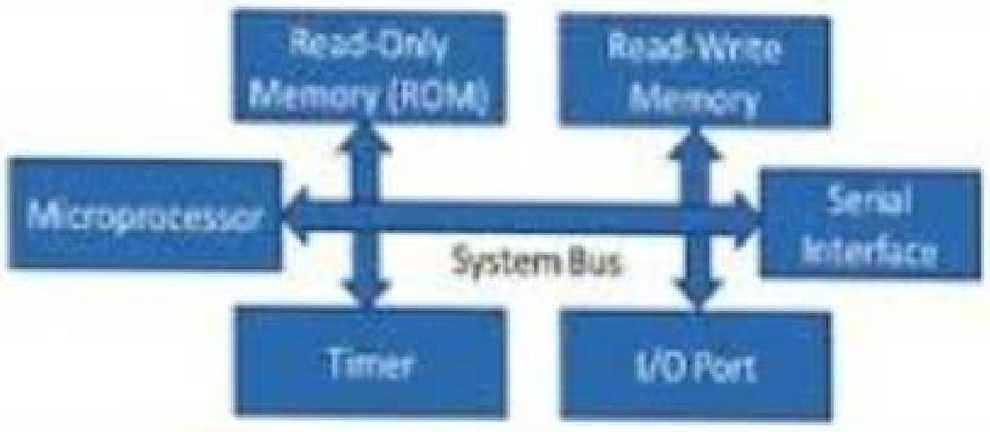
Microprocessor	Micro Controller
	
Microprocessor is heart of Computer system.	Micro Controller is a heart of embedded system.
It is just a processor. Memory and I/O components have to be connected externally	Micro controller has external processor along with internal memory and i/O components
Since memory and I/O has to be connected externally, the circuit becomes large.	Since memory and I/O are present internally, the circuit is small.
Cannot be used in compact systems and hence inefficient	Can be used in compact systems and hence it is an efficient technique
Cost of the entire system increases	Cost of the entire system is low
Due to external components, the entire power consumption is high. Hence it is not suitable to used with devices running on stored power like batteries.	Since external components are low, total power consumption is less and can be used with devices running on stored power like batteries.
Most of the microprocessors do not have power saving features.	Most of the micro controllers have power saving modes like idle mode and power saving mode. This helps to reduce power consumption even further.
Since memory and I/O components are all external, each instruction will need external operation, hence it is relatively slower.	Since components are internal, most of the operations are internal instruction, hence speed is fast.
Microprocessor have less number of registers, hence more operations are memory based.	Micro controller have more number of registers, hence the programs are easier to write.
Microprocessors are based on von Neumann model/architecture where program and data are stored in same memory module	Micro controllers are based on Harvard architecture where program memory and Data memory are separate
Mainly used in personal computers	Used mainly in washing machine, MP3 players

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features of 8051 microcon...

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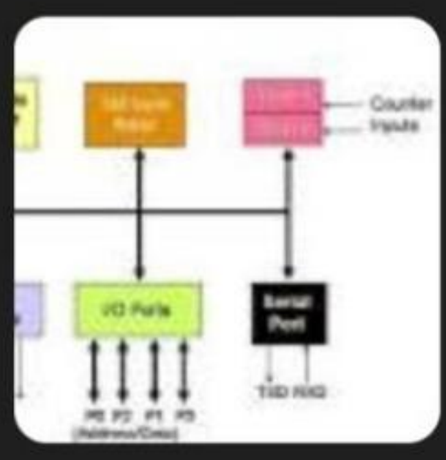
Features of 8051 Microcontroller



- 4KB bytes on-chip program memory (ROM)
- 128 bytes on-chip data memory (RAM)
- Four register banks.
- 128 user defined software flags.
- 8-bit bidirectional data bus.
- 16-bit unidirectional address bus.
- 32 general purpose registers each of 8-bit.
- 16 bit Timers (usually 2, but may have more or less)

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What are the classification of 8051 instructions and its format?

What is the functional description of

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தமிழ் இல் In English

As mentioned before, ALE is the acronym for address latch enable, and it is the 30th pin of 8085. It is used to either enable or disable the address bus. THe address bus is enabled during the first clock cycle when the ALE pin is highest. 28 Oct 2023

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Full Form Of ALE In Microprocessor, What Does An Address Latch Enable Mean?

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identify the term sod and...

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தமிழ் இல் In English

SID and SOD and these signals are used for serial communication. SOD (Serial output data line) – The output SOD is set/reset as specified by the SIM instruction. SID (Serial input data line) – The data on this line is loaded into accumulator whenever a RIM instruction is executed.

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flags available in 8051

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Explanation: The 8051 has four math flags that respond automatically to the outcomes of math operations and three general-purpose user flags that can be set to 1 or cleared to 0 by the programmer as desired. The math flags include carry (C), auxiliary carry (AC), overflow (OV), and parity (P). 10 Apr 2023

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[Solved] The 8051 microcontroller has ____ math flags. - Testbook

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to external events, such as user input, system events, or hardware signals, without the need for constant polling.

There are five interrupt signals in the 8085 microprocessor:

1. **TRAP:** The TRAP interrupt is a non-maskable interrupt that is generated by an external device, such as a power failure or a hardware malfunction. The TRAP interrupt has the highest priority and cannot be disabled.
2. **RST 7.5:** The RST 7.5 interrupt is a maskable interrupt that is generated by a software instruction. It has the second highest priority.
3. **RST 6.5:** The RST 6.5 interrupt is a maskable interrupt that is generated by a software instruction. It has the third highest priority.
4. **RST 5.5:** The RST 5.5 interrupt is a maskable interrupt that is generated by a software instruction. It has the fourth highest priority.
5. **INTR:** The INTR interrupt is a maskable interrupt that is generated by an external device, such as a keyboard or a mouse. It has the lowest priority and can be disabled.

When microprocessor receives any interrupt

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define the term pipelining

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தமிழ் இல் In English

What is Pipelining? Pipelining is the process of accumulating instruction from the processor through a pipeline. It allows storing and executing instructions in an orderly process. It is also known as pipeline processing. Pipelining is a technique where multiple instructions are overlapped during execution.

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What is Pipelining?

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