

Victoria University
of
Bangladesh

program: BSc in CSE

course code: CSE-233

Course title: Computer organization
and Assembler language

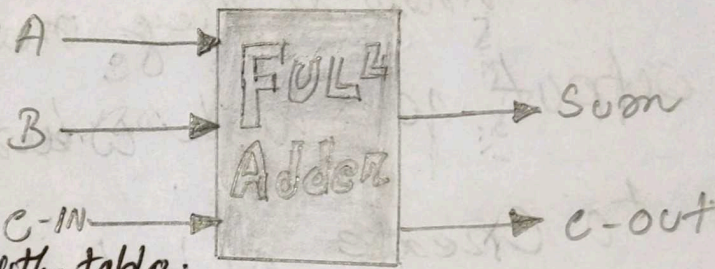
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Ans to the Q. NO. 1

Full adder logic gate: full adder is the adder that adds three inputs and produces two outputs. The first two inputs are A and B and the third input is an input carry as c_{in} . The output carries designated as c_{out} and the normal output is designated as S which is the sum. The c_{out} output is also known as the majority detector whose output goes high when more than two inputs together to create a byte-wide adder and cascade the carry bit from one adder and cascade the carry bit from one adder to another. We used a full adder because when a carry-in bit is available, a 1-bit adder must be used since a 1-bit half adder does not have a carry-in bit. A 1-bit full adder

These operands and generates 2 bit Result when the addition of two binary digits is performed then sum is generated. If it consists of two digit in the output then the MSB bit is referred to as carry this is treated as the third bit in the process of addition.

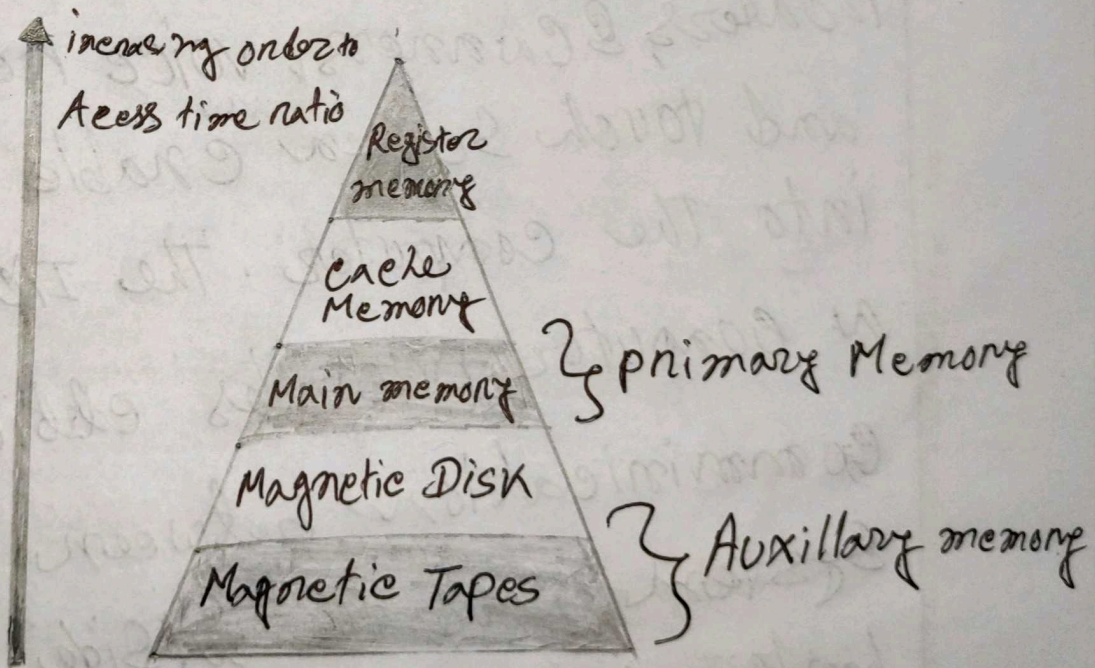


* Full Adder Truth table:

INPUT			OUTPUT	
A	B	C-IN	Sum	C-OUT
0	0	0	0	0
0	0	1	1	0
0	1	0	1	0
0	1	1	0	1
1	0	0	1	0
1	0	1	0	1
1	1	0	0	1
1	1	1	1	1

Ans to the Q.No. 2

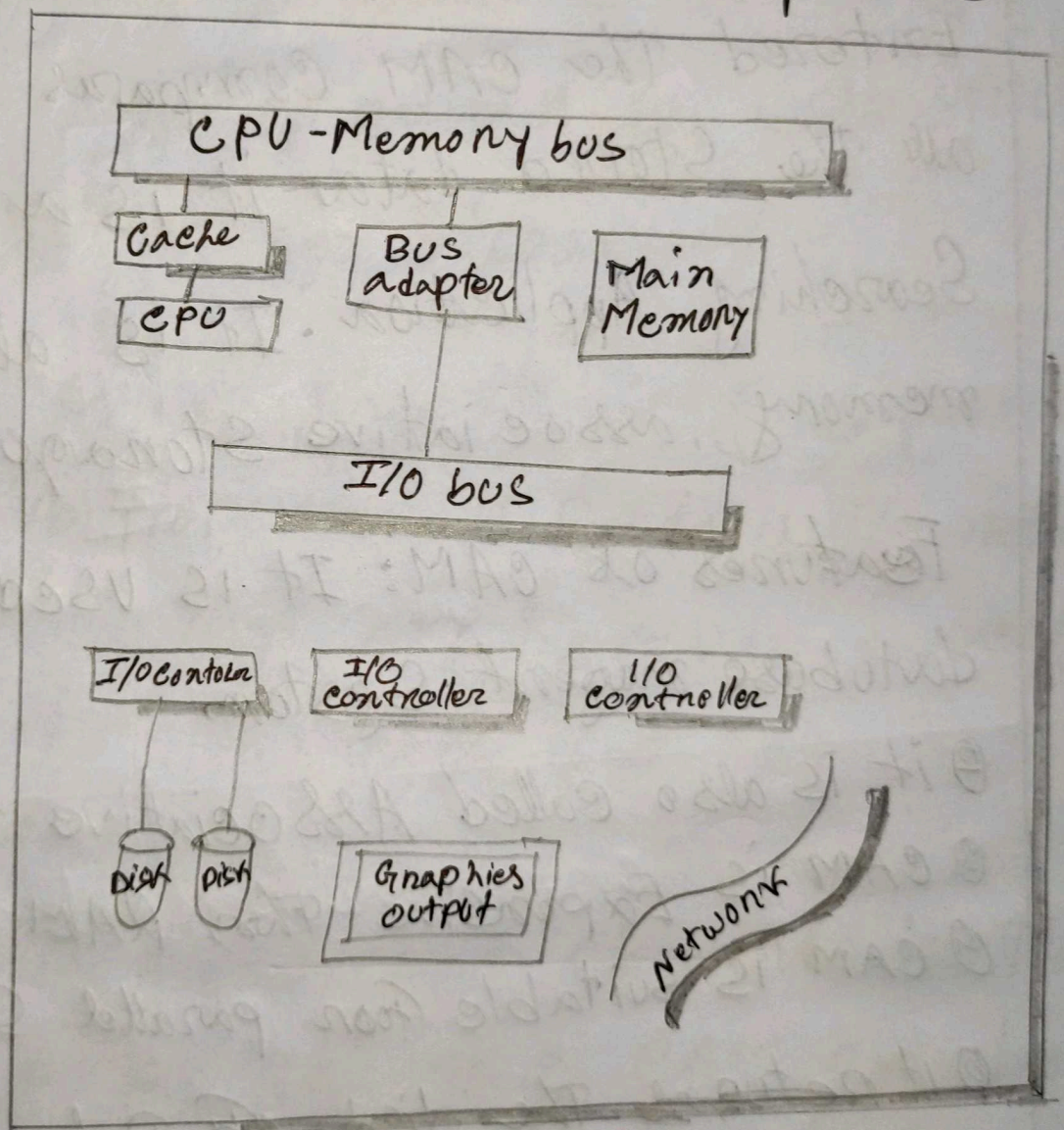
Memory Subsystem organization: The memory is divided into cells, and each of them is identified by a unique number called an Address. When the CPU wants to read or write an address, it generates control signals such as "read" and write which each cell can identify.



Ans To The Q. NO. 3

Input and output (I/O) devices Allow us to communication with the Computer system I/O is the transfer of data between primary memory and various I/O peripherals input devices such as keyboard, mice, card readers, scanners, voice recognition system and touch screen enable us to enter data into the computer. The I/O subsystem of a computer provides efficient mode of communication between the central system and the outside environment. it handles all the input-output operation of the computer system. we can classify input/output parts into four categories based

cpu ability to read and writ data at a given port address. These four categories are read-only ports write-only ports, read/write ports and dual I/O ports.



A. Mode of I/O Subsystem organization

Ans to the Q.No-4

CAM: Content Addressable Memory is a data storage device that stores memory in cells. When any aspect of the memory is entered the CAM compares the input with all the stored data it is a high-speed searching application. It is also called associative memory, associative storage.

Features of CAM: It is used in the database management system.

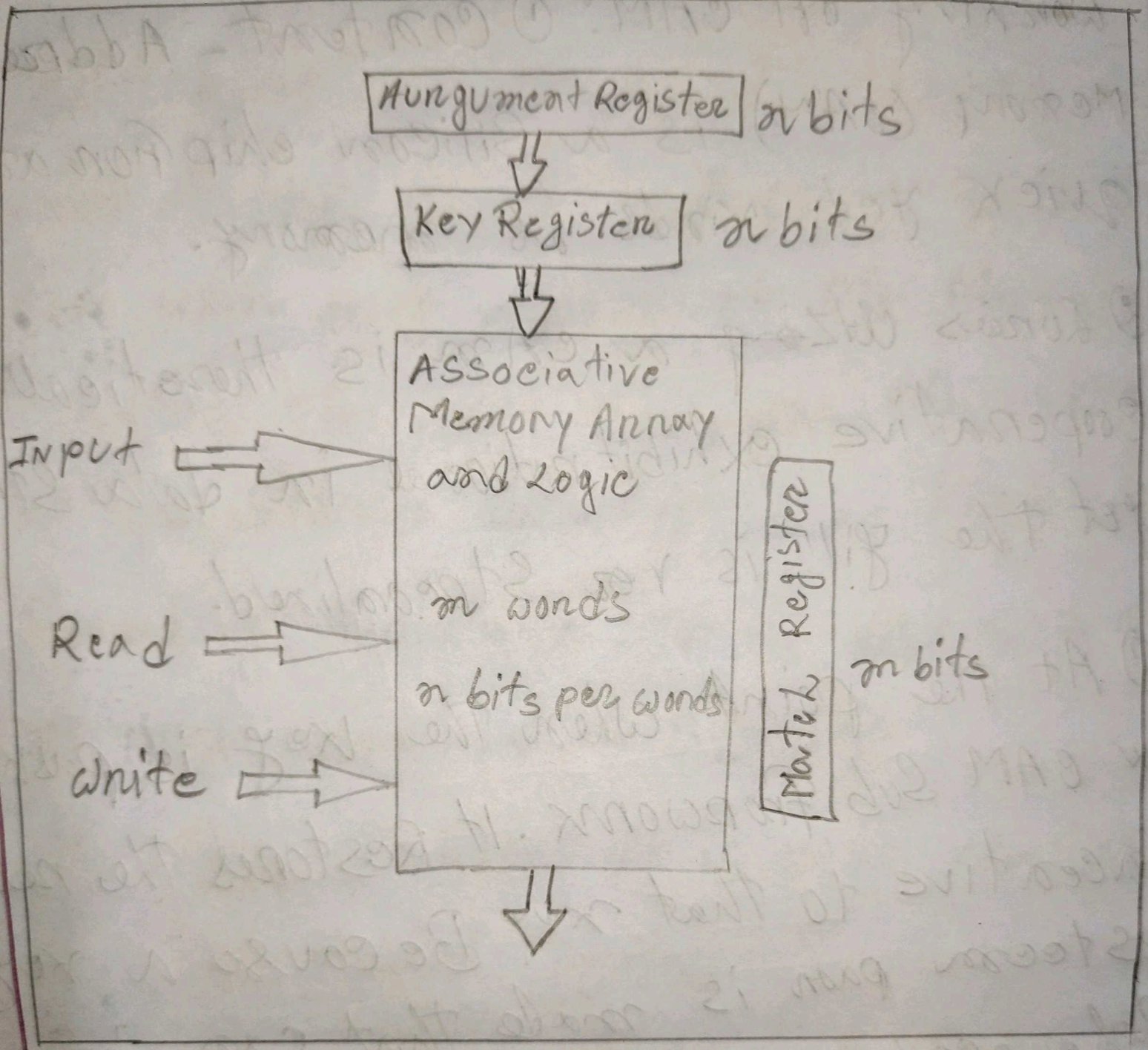
- ① it is also called Associative memory
- ② CAM is Expensive than RAM
- ③ CAM is suitable for parallel search
- ④ It returns the list of data word address that was located.

Working of CAM: ① Content-Addressable Memory (CAM) is a silicon chip for amazingly quick yet kinds of memory.

② Since using a CAM is theoretically like cooperative exhibition in data structures yet the "fill" is very streamlined.

③ At the point when the key is passed to a CAM sub framework. It restores the related incentive to that key because a key \rightarrow esteem pair is made that can be referenced further.

④ The most significant elements is that every bit section in a CAM can be performed in a single clock cycle to make



content-addressable memory