

 Universiti Malaysia PAHANG <small>Engineering • Technology • Creativity</small>	COURSE: COMPUTER ARCHITECTURE		MARK: /10
	TOPIC: Memory	CODE: BCN1043	
	ASSESSMENT: Quiz	NO: 4	

Matric No : _____

Section : _____

- Cache memory plays a major role in elevating a computer's performance. However, such elevation can also be obtained through elevation of CPU processing speed, and increasing the capacity of the register inside the CPU. Explain why the cache memory becomes necessary in elevating a computer's performance.

[4 Marks]

Cache memory is a small and fast memory between CPU and main memory. It is extremely fast compared to normal memory. Transferring data between main memory and CPU causes delay because RAM is slower than CPU. Therefore, increasing the CPU processing speed is somehow useless due to low speed in the RAM. Increasing the capacity of register will increase the cost of the computer. Therefore, adding a memory with slower access speed than the register but with higher capacity will help increase the performance with still lower cost.

[Any other answer that is relevant to the question, 2M / points given]

- You are trying to access a line of data using program A that you have written before using program B. The line of data was read incorrectly due to different ordering styles considered by each program.
 - Explain what kind of ordering style exist

[2 Marks]

There are 2 type of ordering, BIG ENDIAN and LITTLE ENDIAN ordering.

- Explain how the differences in ordering styles affect the reading process of certain data.

[4 Marks]

- What happen when we sent information between computer with different byte ordering? Big endian \leftrightarrow little endian

Address	Big endian		Little endian
0	0 3A 1 2B 2 48 3 CA		0 3 3A 2 2B 1 48 0 CA
	\leftarrow 32 bit word \leftarrow Byte \rightarrow		\leftarrow 32 bit word \leftarrow Byte \rightarrow

- When sending big endian \rightarrow little endian computer. The computer will read the value as: CA482B3A₁₆ wrong

0	3 CA 2 48 1 2B 0 3A
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- When sending little endian \rightarrow big endian computer. The computer will read the value as: CA482B3A₁₆ wrong

0	0 CA 1 48 2 2B 3 3A
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