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10/03/17

Outline the four phases of the machine instruction cycle. [8 marks]

Fetch, Decode, Execute, Store

Draw a block diagram showing the basic components of the CPU and how they interact with memory [8 marks]

- You need to be able to reproduce a block diagram
- 3 things that are important - Control Unit, Registers, Arithmetic Logic Unit

MAR - Memory address register

The address where it's going to store data

MDR - Memory data register

Register definitions in powerpoint

Don't reproduce all information for instruction cycle - just understand them

14/03/17

Outline two functions of an Operating System [4 marks]

An operating system is software that controls the main functionality of a program. One function of an operating system is file management.

File management - allocating memory to applications, storing & retrieving files

User interfaces - controls the layout of user interface

IB Question - Outline ALU

cache

(Primary) Memory (RAM) **volatile**

Secondary Memory (hard disk) **non-volatile**

Volatile memory is not going to last (won't be there next time you turn on)

Non-volatile will be there

IB Exam direct take: Explain how customer's data can be secure when two customers access a system at the same time [2 marks].

Word processor vs Text editor

Text editor - good for writing code

Q: Outline two characteristics of spreadsheets [2 marks]

You can input text into it with any font or size,

Data is input into columns and rows

Characteristic of spreadsheet explicitly - it can do calculations, sort data, create graphs of data (basically saying things it can do)

Outline specific type of application.

15/03/17

Q: Explain the use of cache memory [2 marks]

Cache memory is fast and volatile

Faster to retrieve frequently used data from the RAM

The purpose of cache memory is to set aside addresses and data so that it may be retrieved more quickly. Like RAM, cache memory is volatile which means data is not persistent.

Q: Describe primary memory [2 marks]

Primary memory is the main components of a system that holds data. An example is cache memory.

Volatile

Faster to access than secondary memory

Examples

System's volatile storage area

Functions when the computer is running

Access directly by the processor

Q: Identify the need for persistent storage

Persistent storage is needed in order to store important data that will be used by the processor.

Rather than regenerating and recalculating data, it is stored.

Important data

Still there after computer is turned off