Kemnal Technology College – Computer Science Kemnal Key – Year 11 Term 4

The CPU processes instructions When you run a program, it is the CPU which runs the instructions It is often thought of as being the 'brains' of the computer

The way that a brain works is very different to a CPU. A CPU simply runs one simple instruction at a time It carries out billions of instructions per second

Von Neumann architecture

Program **instructions** and the **data** the programs are using are both stored in the same memory

The CPU accesses both instructions and data from the same RAM

Memory address	Instructions and data
0	Program instruction
1	Program instruction
2	Program instruction
3	Data
4	Data
5	Data
6	Data

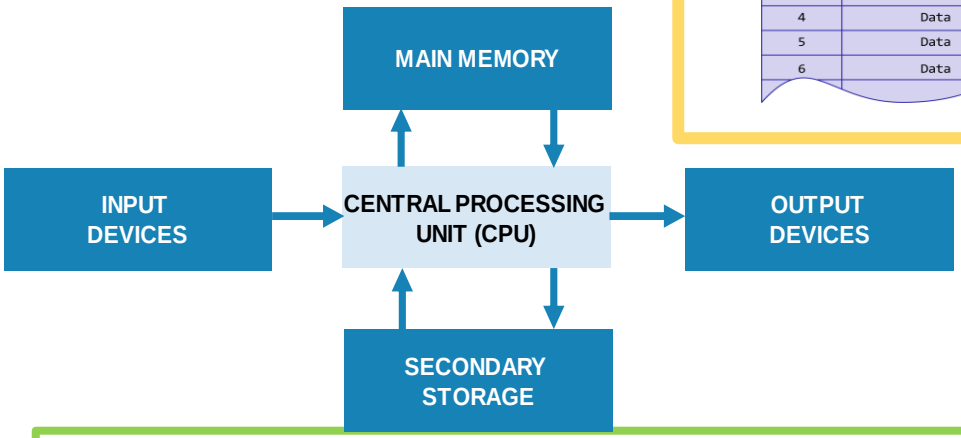
RAM

Operating Systems provide some core functions such as peripheral management:

- File management, Process management, Peripheral management, User management

They also have utility software which helps to keep them working well

- Defragmentation software, Data compression and backup software, File repair software, Anti-malware software



KEMNAL KEY QUESTIONS

1. What is meant by the Von Neumann architecture?
2. Describe what is meant by a compression software utility.
3. State **one** alternative method of identifying vulnerabilities in software
4. Explain how the clock speed of a CPU can affect performance:
5. Define what is meant by an **embedded system**.
6. A digital camera makes use of solid-state cards to store photos.
7. Explain **two** reasons why the manufacturer has decided to use solid state cards.

Select a keyword and fill in the space below: **1: Defragmentation software, 2: Data compression software, 3: Backup software, 4: File repair software, 5: Anti-malware software**

	Prevents malware being installed and important files being changed or deleted.
	Recovers information in a file that cannot be opened
	Packages a file or entire hard drive so that the data takes up less space
	Optimises the use of the hard disk space by collecting together the separate parts of each file in one location on the magnetic disk
	Keeps a copy of data, usually off-site, so that it can be restored if the original data is lost

It is your responsibility to make sure you regularly revisit this knowledge outside of class.