|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **HARDWARE:** the physical components of a computer system that you can see and touch.An **input** device is any piece of computer **hardware** **used to provide data to a computer system**.An **output** device is any piece of computer hardware that **displays information** (data that has been processed) in a human readable format. This could be as an image, sound, vibration or motion. Some devices can be classed as **both input and output** devices, such as touch screen monitors and headsets.Examples of **manual input devices** include: Mouse, Touchpad, Joystick, Concept keyboard.Examples of **automatic input devices** include: Bar code reader, Optical mark reader (OMR), Magnetic Ink Character Recognition (MICR) | **KEYWORDS**Try and complete the keyword table in your OneNote book at the end of each lesson.

|  |  |  |
| --- | --- | --- |
| data | hardware | software |
| fetch | decode | execute |
| binary | Denary | ASCII |
| input device | storage device | output device |
| globalisation | connectivity | IoT |

**STORAGE DEVICES:** computer hardware used to store data. Examples include hard disk drives, DVD and CD drives. Storage devices can be classed as internal or external devices. **Flash memory** is solid-state storage used in a range of devices including USB memory sticks and gaming hardware. | **SOFTWARE:**  the programs and other operating information used by a computer or digital device. Computer software can be divided into different categories, including: * **System Software:** this includes the operating system of a digital device
* **Application Software:** everyday apps and programs you use, such as Microsoft Word,web browsers andgames
* **Utility Software:** such as anti-virus software and file conversion software
* **Bespoke Software:** tailor made software intended for a specific job, for example, running an MRI scanner or a specialised booking system for a company

**The Internet of Things:** Computers and digital devices can connect, exchange and collect data with each other via the Internet.  |
|  **ASCII code** takes each character on the keyboard and gives it a binary number. ASCII code can only store 128 characters which is enough for most words in English but not enough for other languages.**‘a’ = binary number 0110 0001****BINARY -** **a number system that only two digits: 1 and 0.** All information that is processed by a computer is in the form of a sequence of 1s and 0s. The binary system is known as a **‘base 2’** system.Addition  0+0  1+0  1+1  Result  Carry **The Central Processing Unit**The **CPU** or **microprocessor** is considered to the brain of a computer. **The CPU carries out processes such as calculating, sorting and searching. The CPU will execute sequences of instructions (called a program) – needed to process data on our digital devices. CPUs are found in a range of devices from computers, to washing machines and mobile phones.** **Computer clock speed is measured in hertz (Hz). A** **CPU** with a **clock rate of** 1.8 **GHz** can perform 1,800,000,000 **clock** cycles per second!1BBCBitesize**There are only 10 types of people in the world: Those who understand binary and those who don’t****Binary Addition** |

https://icon-library.net/icon/icon-running-3.html