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| **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