

This exemplar Student Learning Record was produced by a Year 12 student from Archway School

SLR 3 – “Input, Output and Storage”

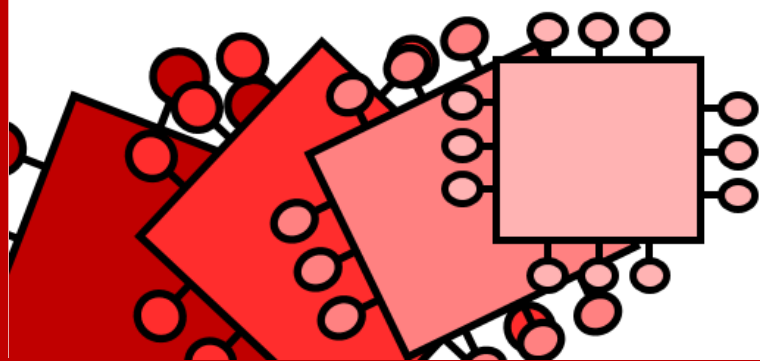
This SLR was graded at an A.

Remember an A does not mean the SLR was perfect.

It simply means the student has produced / handed in a piece of work which is of the maximum quality we would expect from a student at this stage of academic study.

Even with A* graded work it is possible to find areas the student can improve or enhance.

NOTE: Students should be encouraged to produce the evidence for their Student Learning Record in any format they wish. This could be directly in the word document as electronic evidence, in traditional pen and paper format, or indeed in any other format such as a Power Point, Prezi or even a video! The important thing here is to assess the quality and depth of the evidence presented, not prescribe a set format.



RAM:

Random Access Memory is the place in a computer where data that is currently in use, programs and the operating system are kept so that they can be quickly reached by the computer's processor.

RAM	ROM
Used to store programs and data in use by the processor. Programs include the operating system and applications software	Used to store the boot program (bootstrap): a small program to load the operating system
Volatile	Non-volatile
Usually quite large	Usually quite small
Programs stored in in this or flash memory are known as firmware	Programs stored here are boot strap programs used to load an operating system
As large as hard disks	Not a large as hard disks
Older operating systems were Stord this way	Older operating systems would not be stored this way

ROM:

Read Only Memory is used to store the boot program so as to load up the operating system. If the computer is turned off then this data will not be lost. It will store data permanently.

Storage Device:

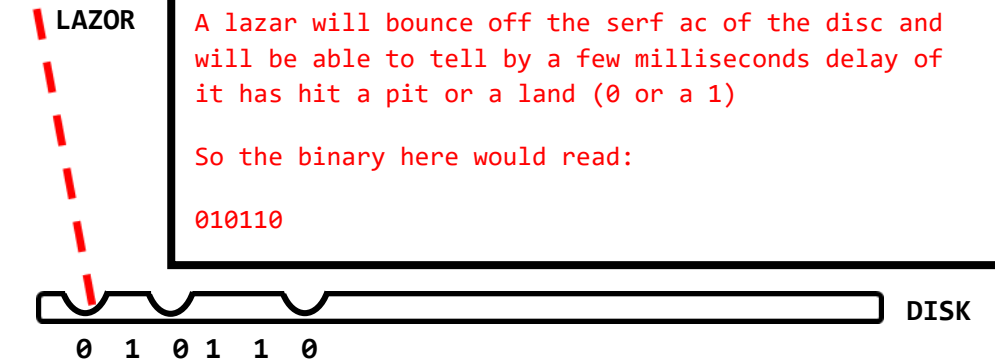
A storage device is an electrical component that stores information in the form of 1s and 0s (binary)

Optical storage:

A lazor will bounce off the serf ac of the disc and will be able to tell by a few milliseconds delay of it has hit a pit or a land (0 or a 1)

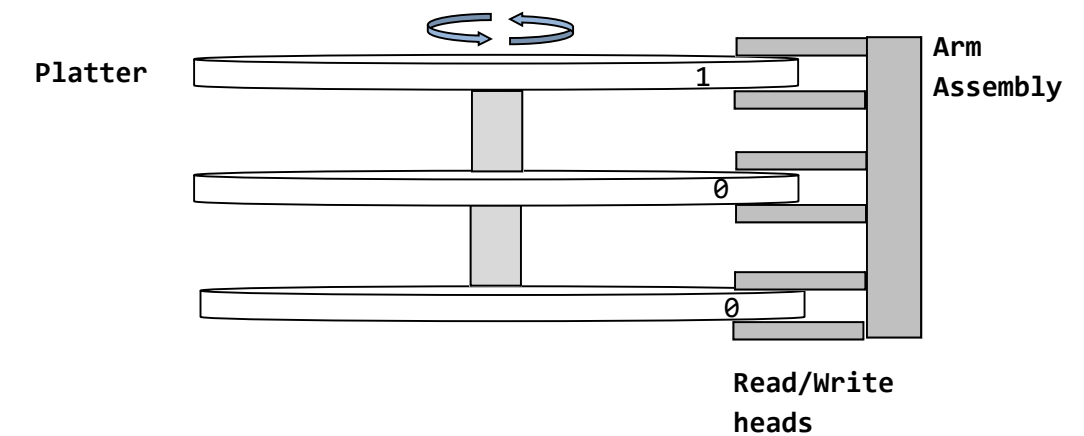
So the binary here would read:

010110



Magnetic Storage:

Magnetic storage if made up of several disks that are moved by read and write heads. It uses several different levels of magnetism that act .



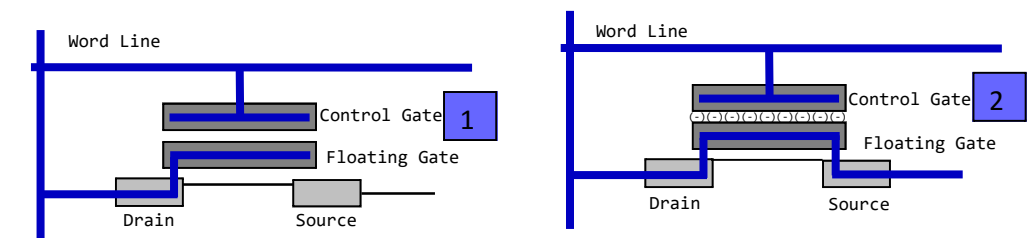
Flash Storage:

Flash memory is an electronic computer storage device that can be electrically erased and rewritten. However, there is a limit on how many times this can take place this limit is usually 100000 times being re-written. This is why phones (that use Flash Storage often only last for 4 years. It is very durable as it contains no moving parts.

Current Flow

Key: —

Negative Charged electrons (-)(-)(-)



Virtual storage allows a user to access data that is no directly stored on their computer. It is stored in big server rooms. Often the data is stored in several different locations that could be in completely different countries.

Virtual storage can be considered an abstraction of data as a person accessing virtual storage (say in a school) would only see their data that they have access to, however, it's stored with a lot of other people's data.

Virtual storage is often used in schools, offices, when people use multiple devices e.g. phones, tablets and laptops for the same work etc.

Virtual Storage:

Virtual storage is an abstraction of data. Due to not storing data directly onto your computer and more common fast broadband it allows fast and easy access to data from any location.

The data will be most likely stored in big servers that are often in different countries.

Input Device:

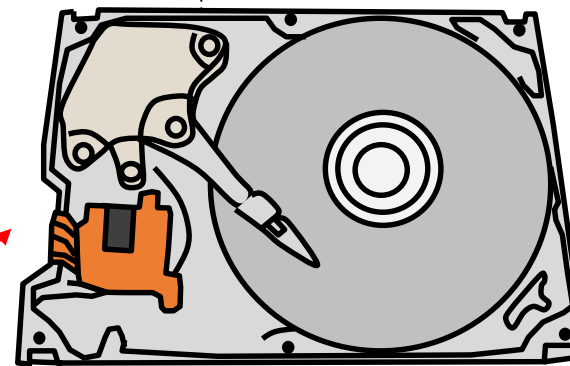
And input device takes something physical, say someone pushing a button or a video and puts into binary so it can be stored or used on the computer.

(\\Teaching resources)(T:)

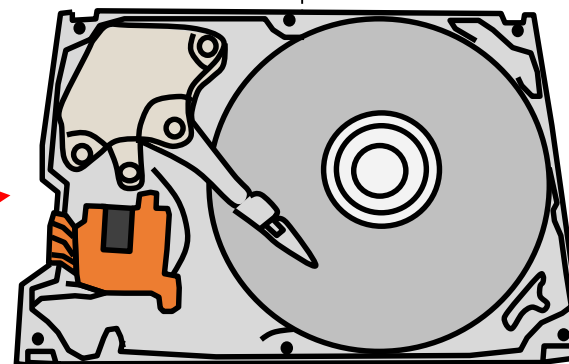
- ▷ Art
- ▷ Biology
- ▷ Chemistry
- ▷ Computing
- ▷ DT
- ▷ English
- ▷ Maths
- ▷ PE
- ▷ RE

Magnetic storage Device, location:

America



Magnetic storage Device, location: India



Output Device:

An output device is a device that takes binary and outputs it into a physical thing that a person can interpret. For example a monitor or sound from a speaker.

Examination Questions

1 Intensive Care Units in hospitals are for patients in need of round the clock monitoring and support. Computerised systems can be used to monitor patients’ vital signs (temperature, heart rate, blood pressure and breathing). They can then alert medical professionals to any significant changes.

(b) (i) Explain two advantages of this monitoring system having its operating system stored in ROM.

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(ii) The monitoring system also has RAM. Describe what happens to the contents of RAM and ROM when power to the monitoring system is removed.

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..... [2]

1 A small store currently has two exits for customers. Each exit has a computerised checkout.

(a) Describe the purpose of the following devices that would be used at the checkouts and in each case give an example.

(i) Input device

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..... [2]

(ii) Output device

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(iii) Storage device

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..... [2]



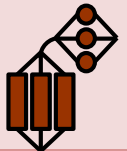
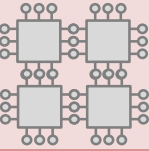
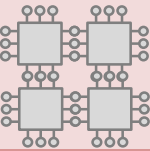

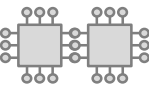
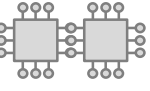
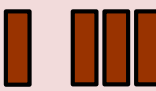



3 – Input, output and storage (AS / A Level)

Specification Points / Learning Objectives: Core text book page ref: 131-133

AS Level	A Level	Specification point description
1.1.3a	1.1.3a	How different input output and storage devices can be applied as a solution of different problems
1.1.3b	1.1.3b	The uses of magnetic, flash and optical storage devices
1.1.3c	1.1.3c	RAM and ROM
1.1.3d	1.1.3d	Virtual storage

Expectations / Learning Outcomes:

- Terms 27-35 from your **A Level Key Terminology** PowerPoint should be included and underlined.
- You must include a clear comparison which shows the differences (Adv. & Dis.) of RAM & ROM.
- You must show, in the form of diagrams, a clear understanding of how magnetic, flash and optical medium are able to store representations of digital 1’s & 0’s.
- You must provide a clear explanation of virtual storage and under what situations it might be utilised.

Grade	TG.	Breadth	Depth	Presentation	Understanding
 A/A*		ALL	LINK / FORMULATE Create, Generate, Hypothesis, Reflect, Theorise, Consider	 Quad Core	 Quad Core
 B/C		MOST	EXPLAIN / ANALYSE Apply, Argue, Compare, Contrast, Criticise, Relate, Justify	 Dual Core	 Dual Core
 D/E		SOME	DESCRIBE / IDENTIFY Name, Follow Simple Procedure, Combine, List, Outline	 Single Core	 Single Core
 U		FEW	Very little depth of understanding shown		

MY ASSESSMENT GRADE IN THIS TOPIC IS:

How To Improve:

My Response Is: (Set yourself specific targets / objectives as to how you will achieve your HTI)

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