

# AQA GCSE (8525) – SLR 7 ALGORITHMS

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All files needed for this topic are in this folder.

It covers:        3.1.1 – 3.1.4 from the specification

This folder contains the following files:



### Lesson overview

#### PowerPoints

One for each lesson to be displayed at the front of the classroom to provide structure to the lesson.

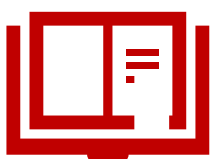


### End of topic test

Written using exam style questions.

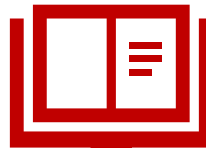
All tests are out of 20 so easy comparisons can be made between different topics.

Full answers provided.



### Student workbook

This is the main file students complete as they progress through a topic. Includes an opportunity for assessment and feedback. Includes a RAG rating self-assessment page.



### Student workbook (answers)

A grade 9 model answer version of the blank student workbook.

Doubles up as an excellent knowledge organiser to hand out to students when needed.

If you wish to follow our dedicated scheme of learning and delivery calendars these can be downloaded separately from your premium resources login by selecting the following tile:

- Other GCSE Resources

For guidance on how to formally assess your students at the end of this topic and to get the most out of our “Student workbooks” please check out the following video on our YouTube channel:



[Assessment with Craig'n'Dave – \(GCSE\)](#)



# README – Getting the most out of our resources

## Theory coverage

With Craig 'n' Dave resources, you do not need to teach the content of the course from the front of the class. Instead, you set students a video to watch ahead of the lesson from our student page:

[student.craigndave.org](https://student.craigndave.org)

Advise them to pause the video when they see the notes icon and record the key theory in an exercise book that they will then bring to the lesson to help them complete the activities. The entire specification is covered point by point in these videos.



Craig 'n' Dave For Students Shop Videos

### AQA GCSE 8525 Videos

AQA 8525 – SLR1 – Systems architecture

AQA 8525 – SLR2 – Memory and storage

AQA 8525 – SLR3 – Computer networks, protocols and layers

AQA 8525 – SLR4 – Cyber security

AQA 8525 – SLR5 – Hardware and software

AQA 8525 – SLR6 – Ethical, legal and environmental impacts

AQA 8525 – SLR7 – Algorithms

AQA 8525 – SLR8 – Basic programming concepts

AQA 8525 – SLR9 – Advanced programming concepts

AQA 8525 – SLR10 – Robust and secure programming

If you wish to deliver our theory videos in a more traditional approach however we also provide them as PowerPoints file. These can be downloaded from your premium resources login.



# README – Getting the most out of our resources

## Additional resources

Don't forget, your subscription comes with full access to all our additional resources. These can all be downloaded from your premium resource's login. These include:

- Programming resources (Python, C#, T.I.M.E, Defold games development)
- Delivery guides/calendars
- Key terminology databases
- Student revision checklists
- "Those little extras" pack
- PDF copy of our "Essential algorithms and data structures" book from Amazon
- PDF copy of our "Documenting Defold programming projects OCR H446" book from Amazon
- Paper 1 exam revision unit
- Text-based adventure game (Telium)

GCSE COMPUTER SCIENCE CALENDAR 2016-17				
YEAR 10				
Week	Date	Lessons		
1	05/09/2016	Introduction lesson	1.1 Lesson 1	1.1 Lesson
2	12/09/2016	1.1 Lesson 3	1.1 Lesson 4	Programming
3	19/09/2016	Programming	Programming	Programming
4	26/09/2016	1.1 Test	1.1 Action	1.2 Lesson
5	03/10/2016	1.2 Lesson 2	1.2 Lesson 3	Programming
6	10/10/2016	1.2 Test	1.2 Action	1.3 Lesson
7	17/10/2016	1.3 Lesson 2	1.3 Lesson 3	1.3 Lesson
Half Term				
1	31/10/2016	1.3 Test	1.3 Action	Programming
2	07/11/2016	1.4 Lesson 1	1.4 Lesson 2	1.4 Lesson
3	14/11/2016	1.4 Lesson 4	1.4 Lesson 5	1.4 Lesson
4	21/11/2016	1.4 Lesson 7	Programming	Programming
5	28/11/2016	1.4 Test	1.4 Lesson	Programming
6	05/12/2016	Programming	Programming	Programming
7	12/12/2016	Programming	Programming	Programming
Christmas				
1	02/01/2017	1.5 Lesson 1	1.5 Lesson 2	1.5 Lesson
2	09/01/2017	1.5 Lesson 3	1.5 Lesson 4	1.5 Lesson
3	16/01/2017	1.5 Lesson 6	1.5 Lesson 7	Programming
4	23/01/2017	Programming	Programming	Programming
5	30/01/2017	1.5 Test	1.5 Action	Programming
6	06/02/2017	Programming	Programming	Programming
Half Term				
1	20/02/2017	1.6 Lesson 1	1.6 Lesson 2	1.6 Lesson
2	27/02/2017	1.6 Lesson 4	1.6 Lesson 5	1.6 Lesson
3	06/03/2017	1.6 Lesson 7	1.6 Lesson 8	1.6 Lesson
4	13/03/2017	1.6 Test	1.6 Action	Programming
5	20/03/2017	1.7 Lesson 1	1.7 Lesson 2	1.7 Lesson
6	27/03/2017	1.7 Lesson 4	Programming	Programming
7	03/04/2017	1.7 Lesson 7	Programming	1.7 Action
Easter				
1	24/04/2017	1.8 Lesson 1	1.8 Lesson 2	1.8 Lesson
2	01/05/2017	1.8 Lesson 4	1.8 Lesson 5	1.8 Lesson
3	08/05/2017	1.8 Lesson 7	1.8 Lesson 8	1.8 Lesson
4	15/05/2017	Programming	Programming	Programming
5	22/05/2017	1.8 Test	Programming	1.8 Action
Half Term				

### GCSE 8525 SLR1 | Systems architecture

Craig'n'Dave

#### About the CPU

The CPU has a number of major components, they are:

Component name:	Arithmetic Logic Unit (ALU)	Control Unit (CU)
Role / Purpose:	This component performs calculations, e.g. addition/subtraction and logical decisions, e.g. does this equal...?	This component decodes instructions and sends signals to control how data moves around the CPU.
Component name:	Bus	Clock
Role / Purpose:	These are a collection of wires through which data is transmitted from one component to another.	The electronic unit that synchronises related components by generating pulses at a constant rate.

The CPU also makes regular use of Registers, what are these?

A collect of small, super areas of memory onboard the CPU, which can be accessed/used by the various other components.

The CPU also makes regular use of Main Memory, what is this?

This memory provides fast access to frequently used instructions and data without having to go to the main memory (RAM).

A diagram of the CPU:

The diagram illustrates the internal structure of a CPU. At the top, the ALU (Arithmetic Logic Unit) and the Control Unit (CU) are connected to a central Bus. The Bus is also connected to a Clock, represented by a clock face. Below the Bus, there are several Registers. The Main Memory is shown at the bottom, connected to the Bus. The diagram is labeled 'A diagram of the CPU:'.

### Systems architecture

STARTER

#### The toy railway

It is quicker to get instructions and data from cache.

16 second

Cache

20 second

RAM

The processor core, cache and RAM are like stations on the track, with the train representing data

The diagram shows a toy railway system with three stations: CPU Core, Cache, and RAM. The CPU Core is connected to the Cache, which is connected to the RAM. The Cache is labeled '16 second' and the RAM is labeled '20 second'. The diagram is labeled 'The toy railway'.

## README – Getting the most out of our resources

### Our pedagogy

Read more about our pedagogy here:



[craigndave.org/our-pedagogy](https://craigndave.org/our-pedagogy)

We have additional videos which you might find useful which explain the Flipped Classroom method of teaching on our YouTube channel:



[youtube.com/watch?v=ErJIJ5xhW-M&list=PLCiOXwirraUBEEFcJfSQgE2P-pcor9b9c](https://youtube.com/watch?v=ErJIJ5xhW-M&list=PLCiOXwirraUBEEFcJfSQgE2P-pcor9b9c)

### More reasons to teach with Craig 'n' Dave

Find out more about why we think our resources are the best available for delivering GCSE Computer Science here:

[craigndave.org/why-teach-with-craigndave-resources](https://craigndave.org/why-teach-with-craigndave-resources)

If you have issues opening any of the files or experience any other problems, or you just want to ask us a question / provide feedback feel free to email us:



[admin@craigndave.co.uk](mailto:admin@craigndave.co.uk)

