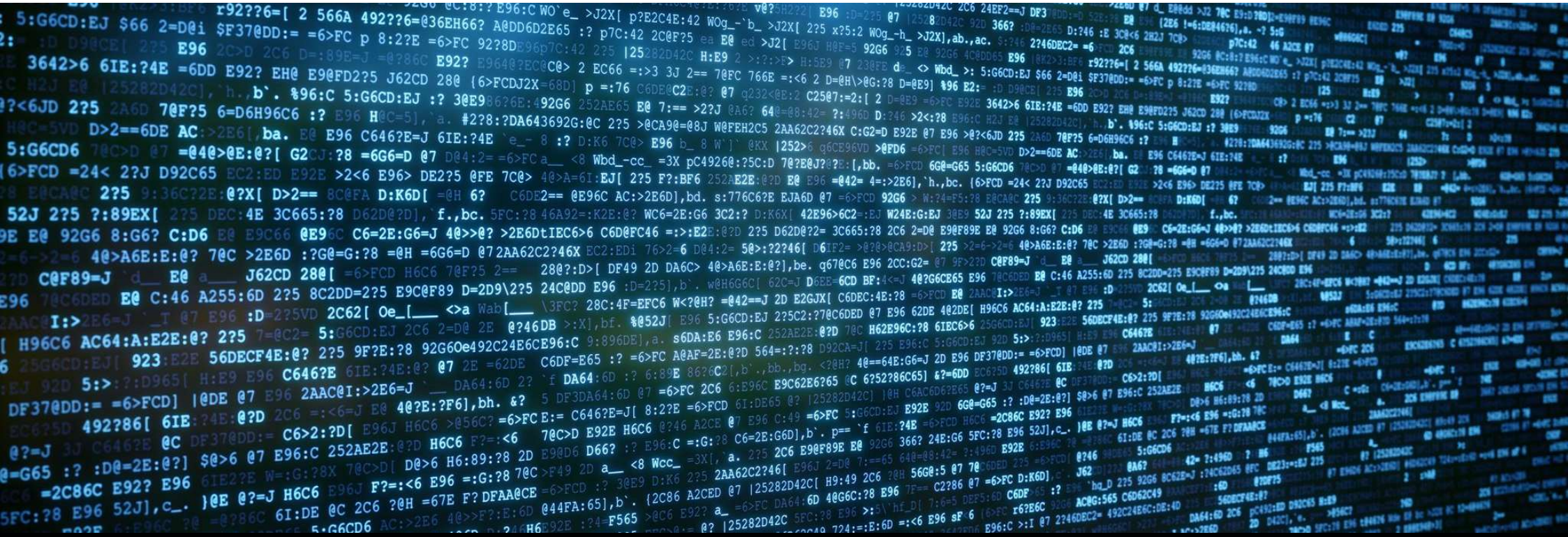

GCSE COMPUTER SCIENCE FINAL BOSS STRATEGY GUIDE

Master key concepts to overcome toughest challenges

WELCOME TO THE FINAL BOSS STRATEGY GUIDE!

Exam as Final Boss

View the EdExcel GCSE Computer Science exam as an epic final boss battle to conquer.

Level Up Skills

Level up your skills and gather powerful revision tools to prepare for the challenge.

Tactics for Success

Learn tactics and use resources to defeat both theory and programming exam papers.

Confidence and Competence

Build confidence and competence to tackle the exam with the mindset of a coding wizard or theory knight.

KNOW YOUR ENEMY: THE EXAM

Exam Structure Overview

The EdExcel GCSE Computer Science exam has two key parts: Paper 1 theory and Paper 2 programming.

Paper 1 Computer Theory

Paper 1 covers Computational Thinking, Data, Computers, Networks and Issues a& Debates

Paper 2 Programming Skills

Paper 2 tests Python coding, algorithms, and computational thinking with hands-on problem solving.

Effective Exam Strategy

Balancing revision for both papers and understanding command words is key to success.

LEVEL UP: GRADE BOUNDARIES

Grade 7 Achievement Goal

Scoring about 91 out of 150 marks across theory and programming unlocks the Grade 7 achievement.

Marks as Experience Points

Each correct answer is like XP, bringing you closer to levelling up in your exam performance.

Using Past Papers

Past papers and mark schemes help identify examiners' expectations and weak spots to target your study.

Tracking Progress and Strategy

Monitoring progress and weaknesses refines your strategy for better exam results and critical success.

A business employs 20 people.

Each employee has a laptop. The business is relocating to a new office building. Employees need to access resources and connect to the internet.

Discuss the type of network the business should install in its new building.

Your answer should consider: • transmission media • network topology.

You do not need to consider cost of materials or installation

Level	Mark	Descriptor
	0	No rewardable content.
Level 1	1–2	Basic, independent points are made, showing elements of understanding of key concepts/principles of computer science. (AO1) The discussion will contain basic information with little linkage between points made or application to the context. (AO2)
Level 2	3–4	Demonstrates adequate understanding of key concepts/principles of computer science. (AO1) The discussion shows some linkages and lines of reasoning with some structure and application to the context. (AO2)
Level 3	5–6	Demonstrates comprehensive understanding of key concepts/principles of computer science to support the discussion being presented. (AO1) The discussion is well developed, with sustained lines of reasoning that are coherent and logically structured, and which clearly apply to the context. (AO2)

A binary search algorithm looks for a target in a sorted array. Here is an array of numbers.

Index	[0]	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Value	11	22	33	44	55	66	77	88	99	100	101

Complete the table to show the steps of a binary search algorithm to look for the number 78, which is not in the array.

You must show the calculation of the mid-point. You may not need to fill in all the rows in the table. (6)

Start index	End index	Calculation of mid-point	Found Y or N	Discard lower, higher or none

Question Number	Answer	Additional Guidance	Mark
5(e)	Award **one** mark for each point for a maximum of **six** marks: • 0 and 10 in first row (1) • Evidence of a calculation for midpoint that would result in 5 shown in first row (1) • N and lower in first row (1) • 6, 10, calculation/8, N, higher in second row (1) Rounding down method • 6, 7, calculation/6, N, lower in third row (1) • 7, 7, calculation/7, N, higher/none/<blank> in fourth row (1) Rounding up method • 6, 7, calculation/7, N, higher in third row (1) • 6, 6, calculation/6, N, lower/none/<blank> in fourth row (1)	Penalise only once on bullet 2 if mid-point value given instead of calculation shown For BP2 there needs to be some evidence of a calculation that would yield the result 5 for the first midpoint. Allow midpoint calculation method to be either rounding down or rounding up.	**(6)**

Start index	End index	Calculation of mid-point	Found Y or N	Discard lower, higher or none
0	10	(0 + 10) / 2 = 5	N	lower
6	10	(6 + 10) / 2 = 8	N	higher
6	7	(6 + 7) / 2 = 6.5 → 7	N	higher
6	6	(6 + 6) / 2 = 6	N	(lower) none/<blank>
7	6			

Suggested time: 25 minutes 6

A program is required to process data about cows.

The data is stored in a comma separated value text file named Cows.txt

The columns in the data file are: • name • breed • tag number.

Open file Q06.py Write a program to meet these requirements:

• create a key for each cow in the data. A valid key is a single string consisting of (in this order)– the first two letters of the breed name– the tag number integer divided by 100– the first two letters of the cow's name

• create a record for each cow. A valid record consists of (in this order)– a key, a tag number, a name and a breed • store the record for each cow in the cowTable

• call the supplied subprogram, showTable(), to display the contents of the cowTable

• the program must work with any number of lines in the data file.

Use comments, white space and layout to make the program easier to read and understand.

Do not add any additional functionality.

Save your amended code as Q06FINISHED.py

(Total for Question 6 = 15 marks)

6			Award marks as shown.	
	6.1		Process every record in the input file (1)	
	6.2		Strip off the line feed on the last field (1)	
	6.3		Split the line on the commas (1)	• Requires argument of comma

0	1	2	3	Max.

0	1	2	3	Max.

0	1	2	3	Max.
No rewardable material	**Functionality (when the code is run)** • The component parts of the program are incorrect or incomplete, providing a program of limited functionality that meets some of the given requirements. • Program outputs are of limited accuracy and/or provide limited information. • Program responds predictably to some of the anticipated input. • Solution is not robust and may crash on anticipated or provided input.	**Functionality (when the code is run)** • The component parts of the program are complete, providing a functional program that meets most of the stated requirements. • Program outputs are mostly accurate and informative. • Program responds predictably to most of the anticipated input. • Solution may not be robust within the constraints of the problem.	**Functionality (when the code is run)** • The component parts of the program are complete, providing a functional program that fully meets the given requirements. • Program outputs are accurate, informative, and suitable for the user. • Program responds predictably to anticipated input. • Solution is robust within the constraints of the problem.	**3**

POWER-UP: THEORY REVISION

Effective Study Techniques

Flashcards, mind maps, and scenario-based questions boost memory and visualize topic connections effectively.

Avoiding Overload Trap

Break complex topics into chunks and revisit them regularly to avoid memorization overload.

Glossary and Context Application

Equip yourself with a glossary of key terms and practice applying them in context for exam readiness.

MASTER THE CODE: PROGRAMMING

Practice Coding Regularly

Regularly write and debug code to strengthen your programming skills and prepare for exams effectively.

Use Trace Tables

Employ trace tables to follow algorithm logic and identify syntax and logical errors accurately.

Plan with Flowcharts and Pseudocode

Map out logic visually with flowcharts and pseudocode to avoid errors before coding begins.