

2015 specification
for the 2022 exam



PAPER 1 EXAM RESOURCE PACK 2022

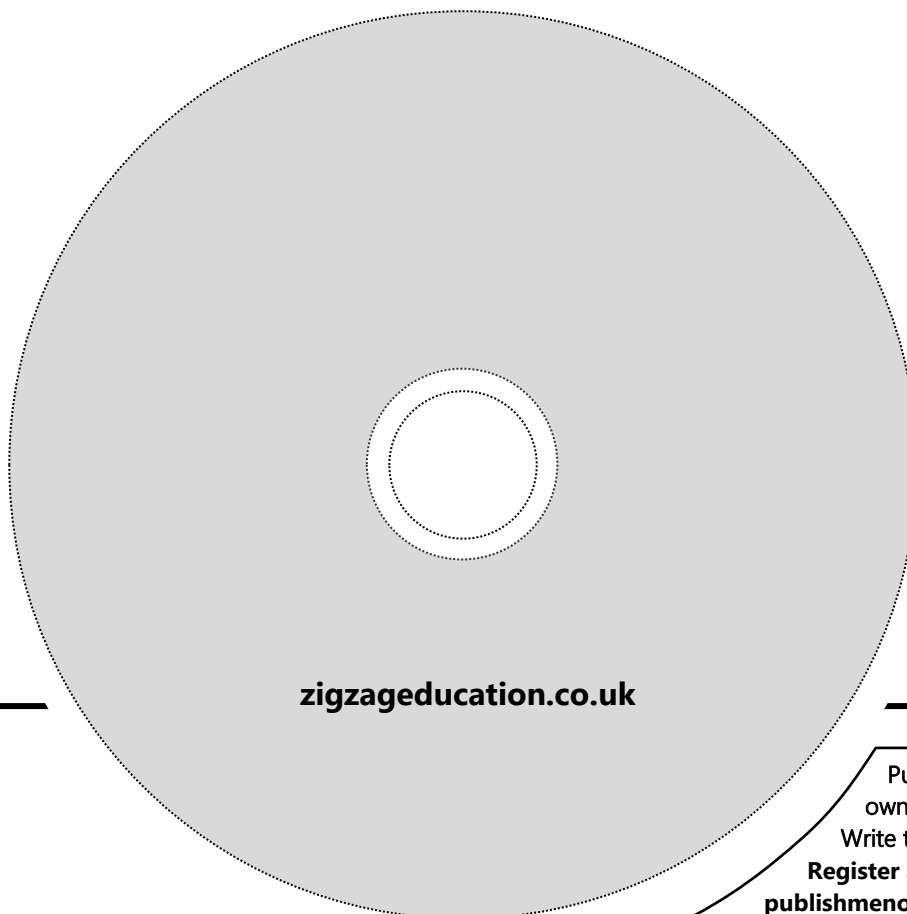
BREAKTHROUGH!

for A Level AQA Computer Science

PYTHON³ EDITION

DH8/
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Printouts of CD resources (for reference)

- Code Breakdown (10 pages)
- UML Class Diagram – Complete (1 page)*
- Theory Questions: Write-on version (9 pages)
- Theory Questions: Non-write-on version (4 pages)
- Coding Tasks (15 pages)
- Additional Tasks (Extension) (1 page)
- Theory Questions: Mark Scheme (5 pages)
- Programming Tasks: Mark Scheme (32 pages)
- Electronic Answer Document (3 pages)

** Note there are also electronic copies of the UML Diagrams ('Complete' & 'Activity' versions) on the CD – which can be printed in A3, making them much more usable (especially when used as activities)*

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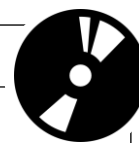
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Teacher's Introduction

This resource pack is designed to help you support your students taking the **A Level Computer Science Paper 1** exam. It is based on the **Breakthrough!** preliminary material (Python³) – for examination summer 2022.

On the CD, you will find the following:



Breakthrough	this folder contains all of the content (PDF/DOCX) accessible via a HTML interface
Passwords.txt	for teacher use – this file contains all of the passwords for the protected PDFs (also listed below)

* PRINTED COPIES OF ALL THE MATERIALS IN THIS DIGITAL RESOURCE PACK ARE INCLUDED FOR REFERENCE.

Installation: Copy the entire *Breakthrough* folder onto a network location that is accessible for students, and provide them with a shortcut to the *index.html* file. All content can be accessed from this page.

Passwords: All of the PDFs accessible via the *Solutions* web page are password-protected, so that students can only access them with your permission. Each password is a four-digit code, as follows:

py02a-UML-Diagram-Complete.pdf	5630
py06-TheoryQuestions-MS.pdf	7642
py07-CodingTasks-MS.pdf	2966

Should you wish to give students access to ALL protected-PDFs, the master password for all files is: **zz2ghc4**

The resource pack consists of the following:

① Code Breakdown

This document gives a detailed technical overview of the skeleton program, describing in detail each class and method in turn – including their purpose/function, parameters and return values.

Note: although this section is intended to give extra support to teachers and students, it should in no way be seen as a substitute to a student exploring the code for themselves.

② Class Diagrams

Three UML Class Diagrams help students explore the skeleton program; there is a completed version, a partially-complete version (gap-fill), as well as a mostly blank template. The completed version is password-protected and accessible via the *Solutions* web page.

③ Video

Quick video going over the *Breakthrough!* card game mechanics – intended as a visual aid to accompany the notes in the official AQA preliminary material.

④ Written Questions

Theory questions testing students' understanding of the skeleton program. These questions require access to the program, but no modifications need to be made to the program. Write-on (with answer lines) and non-write-on versions are available. Suggested answers are provided via the *Solutions* web page as a password-protected PDF.

⑤ Coding Tasks

Fifteen modification exercises put students' programming skills to the test. Example solutions with suggested mark schemes are provided via the *Solutions* web page as a password-protected PDF. Note that these are example solutions and you must use your discretion to award marks accordingly where there are valid alternative solutions.

An **Electronic Answer Document (EAD)** is provided should you wish students to use it for ③ and/or ④ above.

This resource is intended to supplement your teaching only. **Please read full disclaimer (p. iii) before using it.**