

Computer Science A Level | AQA | 7517



PYTHON3 EDITION

BREAKTHROUGH!

PAPER 1 EXAM RESOURCE PACK 2022

for A Level AQA Computer Science



2015 specification

for the 2022 exam

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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)

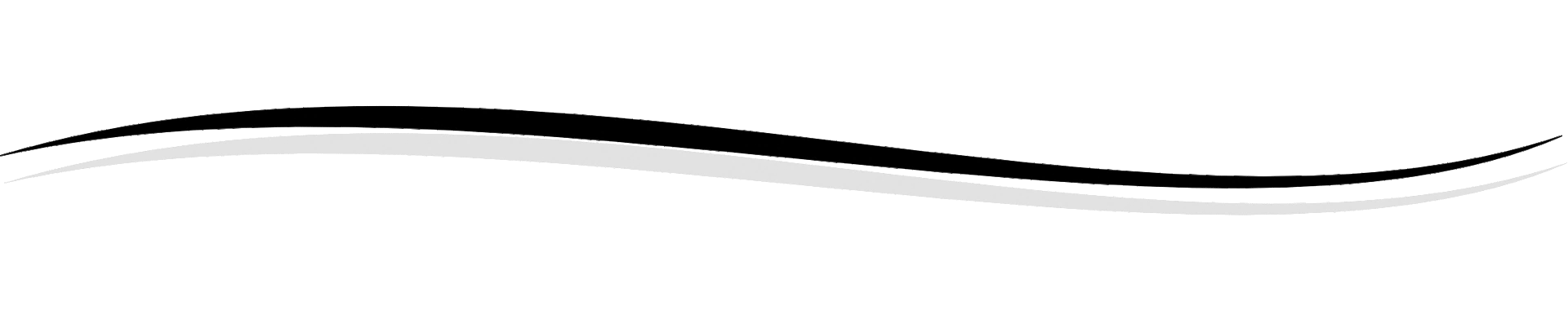
*\* Note there are also electronic copies of the UML Diagrams (‘Complete’ & ‘Activity’ versions) on the CD –   
which can be printed in A3, making them much more usable (especially when used as activities)*

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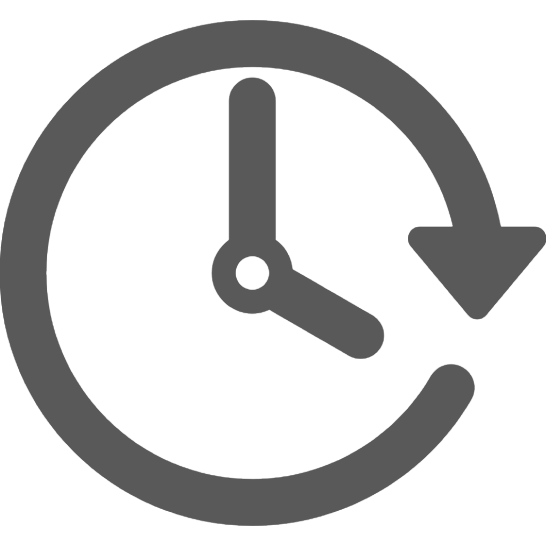
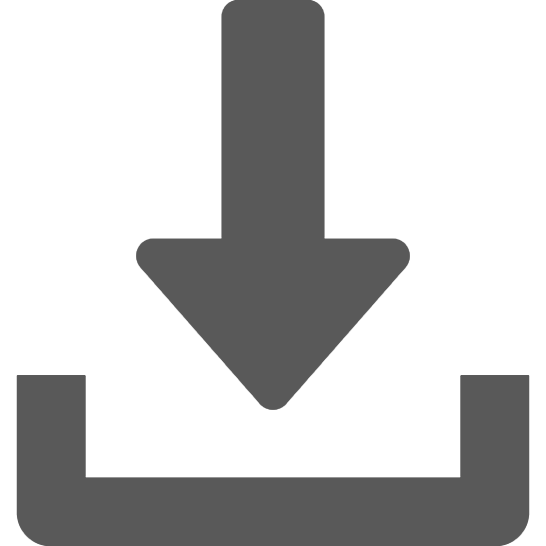
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# Teacher's Introduction

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.

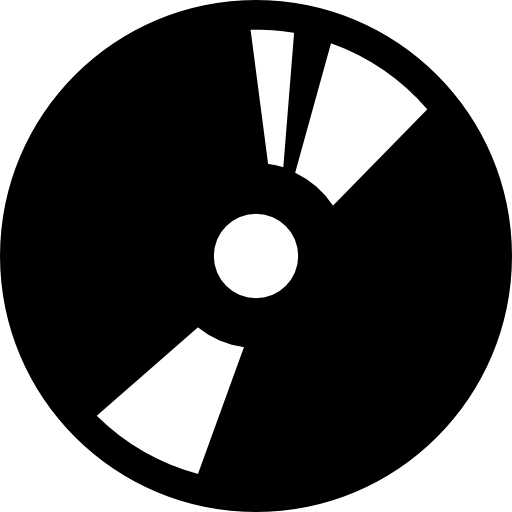
Installation: Copy the entire Breakthrough folder onto a network location that is accessible for students, and provide them with a shortcut to the index.html file. All content can be accessed from this page.

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-Diagam-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.