Subject	A-Level Computer Science
Context / relevance	There are two main aims of this course, the first to discover the science behind computers and computer systems. The second to learn how to develop computer software. Whilst this course will develop your ability to program, you must have experience of programming before you start in September. The following tasks will help you to gain an overview/refresher of the Programming Fundamentals you will need to master for the Computer Science A-level.
Securing	**Task 1:** Your task is to learn/refresh the basics of the Python programming language. Please refresh your understanding of python programming through completing the challenges on the following website: Unit 2.2: Programming Fundamentals Hub - GCSE Computer Science
Processing	Please complete the following programming project cementing your understanding of programming concepts. Begin by carrying out an **analysis of the problem**, identifying inputs, outputs, and requirements, which encourages logical thinking and planning. Then move on to the **implementation stage**, where you write code using appropriate programming constructs such as selection and iteration, building on GCSE knowledge while introducing greater independence. Finally, complete **testing**, including normal, boundary, and erroneous data, to check their program works correctly and to develop evaluation skills. This process helps students transition to A Level expectations by promoting deeper understanding, independence, and a more formal approach to software development. Please create a word document for the analysis and testing section and you programming file for the code.
Exploring	At A-level, the main programming language is Python. We do study other languages and the following sources are a good place to start Use W3schools to work through the following tutorials SQL: SQL Tutorial (w3schools.com) HTML: HTML Tutorial (w3schools.com) Reading: Stack Overflow is a question-and-answer site for professional and enthusiast programmers. As your experience of programming grows, you will be surprised how often you end up here.
Reviewing	Reflect on what you have learned through this work by doing the following: • Note down 5 new things that you found most interesting • What did you find most challenging and what did you feel most confident with? • Write down 3 questions that you would like to ask your teacher about the topic area(s) that you have been introduced to