

Subject	A-Level Computer Science
Context / relevance	<p>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.</p> <p>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.</p>
Securing	<p><b>Task 1:</b> Your task is to learn/refresh the basics of the Python programming language. You will be using Trinket, a free online Integrated Development Environment.</p> <p>Step 1: Navigate to <a href="https://trinket.io/courses/join/GvVGK9">https://trinket.io/courses/join/GvVGK9</a> using Chrome on a PC.</p> <p>Step 2: Sign-up to the course</p> <p>Step 3: Once signed in, complete each of the assignments in turn, there are 11 different topics to practice.</p> <p>Videos are included to help support for each task.</p>
Processing	<p><b>Task 2:</b></p> <p>Write a program that will simulate rolling a dice with six sides.</p> <p>a. Your program should:</p> <ol style="list-style-type: none"> <li>Count how many times you need to roll the dice to get a 6</li> <li>Count how many times you need to roll the dice to get a cumulative total of over 100</li> <li>Count how many times you need to play until you get a total of exactly 100 This means that if in the first game you get a total of 101, this would count as one play. If in the second game, you get a total of 102 that would be the second game. If in the third game you get exactly 100, the output should be three games.</li> <li>Count how many times you can get a run of the same number on the dice. E.G. how many sixes you can get in a row.</li> </ol> <p>Each time you get a new highest number you should output it</p> <p>Make sure to comment your code</p>
Exploring	<p>At A-level, the main programming language is Python. We do study other languages, and the following sources are a good place to start</p> <p>Use W3schools to work through the following tutorials</p> <p>SQL: <a href="https://www.w3schools.com/sql/">SQL Tutorial (w3schools.com)</a></p> <p>HTML: <a href="https://www.w3schools.com/html/">HTML Tutorial (w3schools.com)</a></p> <p>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.</p>
Reviewing	<p>Reflect on what you have learned through this work by doing the following:</p> <ul style="list-style-type: none"> <li>• Note down 5 new things that you found most interesting</li> <li>• What did you find most challenging and what did you feel most confident with?</li> </ul>

	<ul style="list-style-type: none"><li>• Write down 3 questions that you would like to ask your teacher about the topic area(s) that you have been introduced to</li></ul>
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