

## A-Level Computer Science Transition Tasks

Go to W3Schools and begin by choosing a language of your choice, either Python or Java. Work your way through the different tutorials until you feel ready to take the Java Exercises (or Python Exercises) located at the bottom of the page. Being able to complete these exercises will give you a huge advantage when starting the course.

**Task 1:** Once you have completed the exercises, have a go at the Quiz. Once you have completed the quiz, take a screenshot of your score and email it to Mr Bowbanks ([bowbanks@gegs.email](mailto:bowbanks@gegs.email)). *Only email Mr Bowbanks when all tasks are complete.*

**Task 2:** Now that you are hopefully familiar with the programming language of your choice. It is time to apply it to an activity. Choose *either* the easy or hard task below and complete the task in the programming language of your choice and then send it to Mr Bowbanks.

**Easy:** produce a program that will allow the user to input a number, and the program will then out the Fibonacci sequence up to that value. For example, if I enter the number 8, the program would output: 0, 1, 1, 2, 3, 5, 8, 13. If you have not heard of the Fibonacci sequence before, simply add the last two values in the sequence to get the next one.

**Hard:** produce a program that generates four random numbers from 0-9, and then requires the user to guess the four digit combination. The user should be given a limited number of guess, say 7 to guess the correct combination. Each time, the user guesses a number correctly, they should be shown that number. For example, the program would generate four random numbers shown as \*\*\*\*. I may then enter the guess 1 2 3 4. If three is in the sequence and in the correct space, then the program would now display \*\*3\*. If I then enter 7 5 3 2 and 7 is in the sequence but in the wrong place, then the program would still only display \*\*3\*.

**Task 3:** Watch the short video on 10 emerging technologies of 2019 from one year ago (available at <https://www.youtube.com/watch?v=hUsDdbqr0c8>). In the video they describe 10 technologies that they believe were due a breakthrough in 2019. Of those 10 technologies, which do you believe holds the most potential, and how could it be used to better humanity? Which of the 10 technologies is the most concerning to you and why? Write 200-500 words explaining your choices based on any research you choose to undertake online.

*Should you have any questions or concerns, or you would just like to introduce yourself, then please feel free to email me using the address above.*

