



# Bishop Challoner

## Computer Science Department

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### Year 11 – Preparing for A Level Computer Science

A Level Computer Science is a demanding subject that requires you to apply logic and reason to solve a multitude of problems, often using an algorithm. The course naturally builds upon knowledge acquired from GCSE but is also open to those who have not studied the subject at GCSE level.

Resources to accompany this can be found here: [tinyurl.com/y11toy12cp](https://tinyurl.com/y11toy12cp)

A good place to start is with sorting algorithms, a topic that is studied at GCSE but built upon at A Level. What will be required is a knowledge of the four algorithms, how they are applied, how to note them and an understanding as to their performance.

The four algorithms are:

- Merge Sort
- Bubble Sort
- Insertion Sort
- Quick Sort

We will start with bubble sort.

1. For an introduction, watch this video - <https://www.youtube.com/watch?v=uTfiT8Z5tMQ>
2. Now, look at the folder called Sorting Algorithms which can be accessed via the link above (you will need to login to your school account when prompted). Inside here is a PDF of a PowerPoint (one that is used to teach these topics) and a Word document containing past paper questions on bubble sort.
  - a. Have a work through the PowerPoint – some of the information will overlap with the videos you have watched.
  - b. Have a go at some of the questions – please feel free to email Mr Ravenscroft any work you complete – he is more than happy to mark it.

#### Challenge

1. For those of you who have experience at GCSE. Can you code or pseudocode Bubble Sort? If so, send any answers to Mr Ravenscroft.
2. Go through the past papers (also found in the folder discussed above), find some questions on Bubble Sort – have a go at them! Send any answers to Mr Ravenscroft.