Preparation for the Study of Computer Science

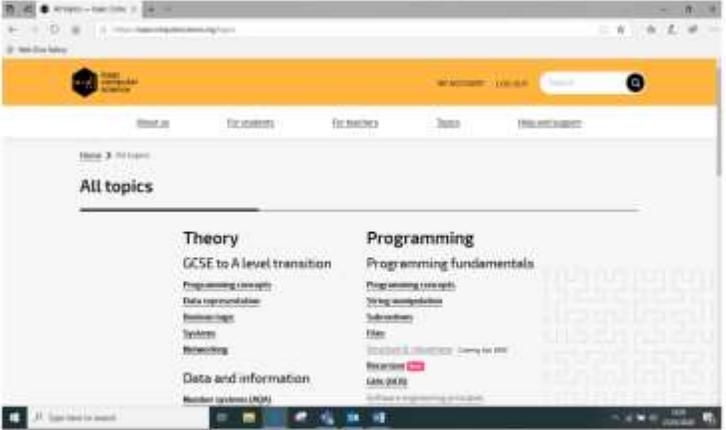| Week 1	Click the link to access each resource
	Isaac Computer Science is an excellent tool that you can use to refresh and refine your GCSE level knowledge, as well as offering an introduction to the knowledge and understanding required at A Level. Sign up as **a student**: https://isaaccomputerscience.org/home. Keep your log in details safe as this is likely to be a resource used throughout your course. Select the topics tab and choose all topics (https://isaaccomputerscience.org/topics). You will then be presented with a page that looks like this: Work through the different topics and engage with the content. Each section has a short knowledge tests that you can take to assess the level of your knowledge and understanding.
	In addition to the above, you may choose to do your own tasks, which you can list here:

Week 2	Click the link to access each resource
👁	**Watch** the series of videos explaining the mechanics of computers. This is revision of the fundamentals of Computing, all of the technology you will learn about. Mechanics of Computers - *Crash Course Computer Science YouTube (**Time: 2hr**)*
🎧	**Listen** to this podcast episode. Hannah Fry travels back to the 1940s to hear the incredible story of the creation, in Britain, of computer memory. *Digital Brains - Computing Britain podcast* *(**Time: 0.5 hr**)*
🎧	**Listen** to this podcast episode exploring the 20th century shift from industrial to information society. What has been the cause of this shift and how will we recover the social cohesion that preceded it? The Great Disruption - *BBC In Our Time podcast* *(**Time: 1hr**)*
✓	**Complete** the introductory Edabit programming challenge. (email registration required). Challenge 1 - How Edabit works - *Edabit website* *(**Time: 0.5 hr**)*
🎧	**Listen** to this podcast episode. Hannah Fry reveals the surprising story of the chain of British teashops that created the first office computer. *LEO the electronic office - Computing Britain* podcast *(**Time: 0.5 hr**)*
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Week 3	Click the link to access each resource

Programming is a fundamental part of the A Level CS course. It is very important that you stay "Python enabled" and are able to develop what we have covered in class.

You may use any Python Programming application – online or your own installed version.

A useful online resource is **Future Learn** which you can use to refresh and refine your programming skills.

Start with this free course to begin with:

https://www.futurelearn.com/courses/programming-102-think-like-a-computer-scientist

The series follows a sequence of three courses titled programming-101, programming-102 and programming-103. Start from programming-102 but if you find this tricky, go back and complete programming-101 first. Upon completion of programming-102, you should then complete programming-103.

As an extension, you may explore building up your knowledge and understanding of Object-Oriented Programming (OOP). Follow this link for the free course: https://www.futurelearn.com/courses/object-oriented-principles

One final resource that you may already be familiar with is the Craig and Dave videos on YouTube. These come in very handy during introduction lessons and revision so feel free to have a look at these too.

In addition to the above, you may choose to do your own tasks, which you can list here:

Week 4	Click the link to access each resource
👁	**Watch** the TED talk. In this wide-ranging, thought-provoking talk, Kevin Kelly muses on what technology means in our lives -- from its impact at the personal level to its place in the cosmos. Technologies Epic Story - *TED Talks – Kevin Kelly* *(Time: 0.5hr)*
✓	**Complete** Edabit challenge 2 – The sum of 2 numbers. (email registration required). Challenge 2 - Sum of 2 numbers - *Edabit website* *(Time: 0.5 hr)*
✓	**Complete** Grok Learning Challenge 1 – Talking to your computer. (Registration required) Talking to your computer - *Grok Learning website* *(Time: 1hr)*
✓	**Complete** Grok Learning Challenge 2 – Calculating things. (Registration required) Calculating things - *Grok Learning website (**Time: 1hr**)*
👂	**Listen** to this podcast episode. Hannah Fry explores ERNIE, a machine made by wartime code-breakers which became an unlikely celebrity. *ERNIE picks prizes* - *Computing Britain podcast* *(Time: 0.5 hr)*
📖	**Read** this article and answer this question: Does a USB drive get heavier as you store more files on it? Does a USB drive get heavier - article - *Science Focus* *(Time: 1hrs)*
	In addition to the above, you may choose to do your own tasks, which you can list here: