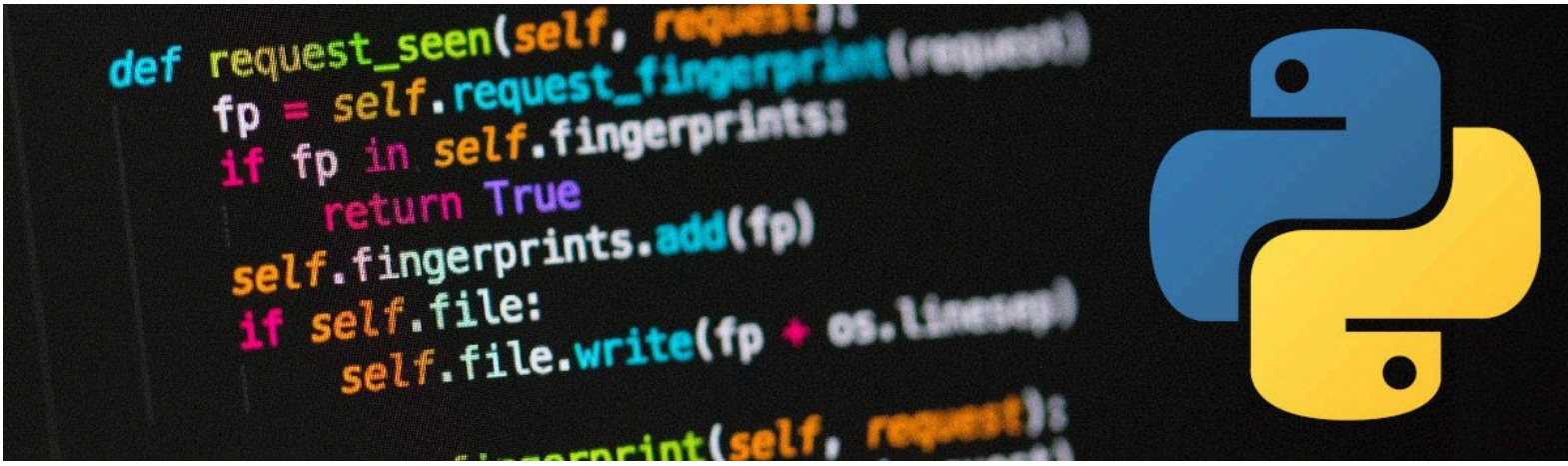
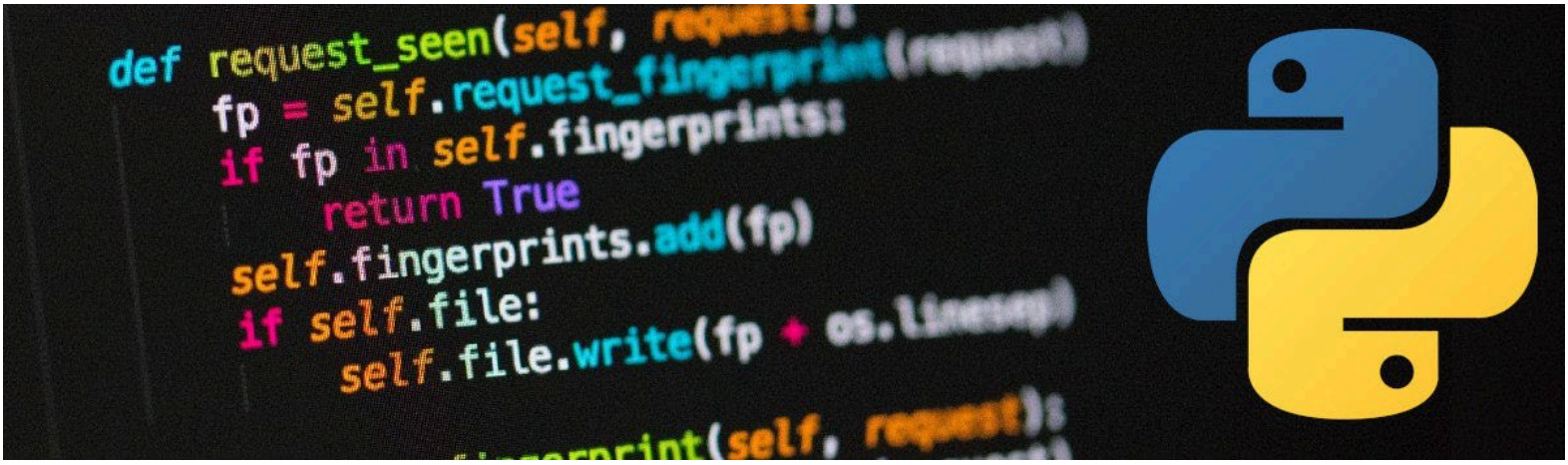


	KS4 Year 10 Computer Science - Specification	
	Topic	**Learning Aims**
1	**Architecture of the CPU**	Learning about the different registers and components within Von Neumann Architecture.
2	**CPU Performance**	Learning about different factors that affect the performance of the CPU.
3	**Embedded Systems**	Learning about the purpose of embedded systems.
4	**Primary Storage**	Learning about the purpose of primary storage within computer systems.
5	**Secondary Storage**	Learning about the purpose of secondary storage within computer systems.
6	**Units of Data**	Learning about the different units of data for storing files.
7	**Data Storage**	Learning how to convert file sizes and calculating storage capacities.
8	**Characters, Images and Sound**	Learning how computers represent characters, images and sound.
9	**Compression**	Learning about the purpose of compression and the use of lossy and lossless compression.
10	**Networks and Topologies**	Learning about computer networks and the use of different topologies.

11	**Wired and Wireless Networks, Protocols and Layers**	Learning about the differences between wired and wireless networks. The purpose of different protocols and layers.
12	**Threats to Computer Systems and Networks**	Learning about different threats to computer systems and networks. Also, methods of prevention.
13	**Operating Systems**	Learning about the features of different operating systems.
14	**Utility Software**	Learning about the purpose of different utility software.
15	**Ethical, Legal, Cultural and Environmental Impacts**	Learning about the ethical, legal, cultural and environmental impacts that technology has.



	KS4 Year 11 Computer Science - Specification	
	Topic	**Learning Aims**
1	**Computational Thinking**	The use of computational thinking when planning the design of computer programmes.
2	**Design, Creating and Refining Algorithms**	Learning how to design, create and refine algorithms.
3	**Searching and Sorting Algorithms**	Learning about techniques used to search and sort algorithms.
4	**Programming Fundamentals**	Learning the use of different programming concepts used to construct Python programmes.
5	**Data Types**	Learning about the different data types used within computer programmes.
6	**Additional Programming Techniques**	Learning about the use of additional programming techniques such as loops.
7	**Defensive Design**	Learning about the different defensive techniques used when designing computer programmes.
8	**Testing**	Learning about different techniques used to test computer programmes.
9	**Boolean Logic**	Learning about the use of Boolean operators and logic within computer programmes.

10	**Languages**	Learning about the different attributes for low-level and high-level programming languages.
11	**Integrated Development Environment**	Learning about the different tools and features built within integrated development environments.