

COMPUTING YEAR 9

Python Programming

SESSION 1

Uses and manipulates one-dimensional data structures	[]
Recognises that the design of an algorithm is distinct from its expression in a programming language (which will depend on the programming constructs available)	[]
Evaluates the effectiveness of algorithms and models for similar problems	[]
Is able to use external files for storage	[]
Recognises where information can be filtered out in generalizing problem solutions (abstraction)	[]
Applies a modular approach to error detection and correction	[]
Understands and applies parameter passing	[]
Designs a solution to a problem that depends on solutions to smaller instances of the same problem (recursion)	[]
Understands that a recursive solution to a problem repeatedly applies the same solution to smaller instances of the problem	[]
Designs and writes nested modular programs that enforce reusability, utilising sub-routines between 'While' loop and 'For' loop, which uses a loop counter.	[]
Uses technologies and online services securely, and knows how to identify and report inappropriate conduct	[]
Designs criteria for users to evaluate the quality of solutions, uses the feedback from the users to identify improvements, and makes appropriate refinements to the solution	[]
Understands that sequences can be grouped as modules, such as functions and procedures	[]
Understands that functions can be reused	[]
Understands that programs are made up of modules	[]
Uses loops to speed up processing	[]
Understands that arrays contain a collection of related values under the same identifier	[]
Understands that there are different types of repetitions, pre-tested and post-tested	[]
Demonstrates the ability to use functions	[]
Is able to choose an appropriate data structure to model real life information	[]
Shows the use of a variety of data structures	[]
Can add data and extract data from an array	[]
Employs strategies to identify and correct errors	[]
Uses loops to speed up processing	[]
Understands and applies parameter passing	[]
Understands that outputs need to be relevant to the user	[]
Understands how important trial and error is to system development	[]
Designs a solution that uses selections using a high level language	[]
Is able to break a problem down into its component parts, on their own	[]
Is able to express a problem in a computational method	[]
Is able to design an iteration using a high level language	[]
Is able to choose which type of iteration (pre- or post-tested) is most suitable for the solution	[]

	HTML & CSS	
SESSION 2	Knows that a procedure can be used to hide the detail with sub-solution (procedural abstraction)	[]
	Detects and corrects syntactical errors	[]
	Demonstrates responsible use of technologies and online services, and knows a range of ways to report concerns	[]
	Shows understanding of a "digital reputation"	[]
	Understands how to construct static web pages using HTML and CSS	[]
	Recognises ethical issues surrounding the application of information technology beyond school	[]
	Is able to convey an idea using a webpage built in HTML & CSS	[]
	Evaluates the trustworthiness of digital content, and considers the usability of visual design features when designing and creating digital artefacts for a known audience	[]