



High Tunstall College of Science Curriculum Intent

Topic:	Application of Computational Thinking Topic 6: Problem Solving with Programming Merge Sort and Using External Files	Year:	10	Half Term:	5
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	Progress		
Key Ideas	R	A	G
I can describe the merge sort algorithm			
I can merge two sorted lists			
I can open a file for reading, read lines from a text file and close a file			
I can split a string using commas			
I can store items in lines as records in a 2D structure			
I can open and closed files for writing			
I can construct a comma-separated value line from a record in a 2D structure			
I can write comma-separated text (records) to a file			
I can define the term 'authentication'			
I can create a flowchart for an authentication algorithm			
I can implement authentication using a 2D data structure with at least two columns			

Lesson	Learning Focus	Assessment	Key words
1	Describe the merge sort algorithm Merge two sorted lists	Evidence in Teams End of topic assessment	Divide and conquer, Indexing, Lists, Merge sort, Pairs, Repetition, While
2	Open a file for reading Read lines from a text file Close a file	Evidence in Teams End of topic assessment	Array, Comma Separated Value (CSV), Database, Escape character, Hard coding, List, Persistent, String manipulation, Text file
3	Split lines on commas Store items in lines as records in a 2D structure	Evidence in Teams End of topic assessment	Append, Fields, Record, String.split()
4	Open files for writing Construct a comma-separated value line from a record in a 2D structure Write comma-separated text (records) to a file Close a file	Evidence in Teams End of topic assessment	ASCII, Carriage return, Concatenation, Hexadecimal, Line feed
5	Define the term 'authentication' Create a flowchart for an authentication algorithm Implement authentication using a 2D data structure with at least two columns.	Evidence in Teams End of topic assessment	Authentication, Credentials, Separation of concerns
6	Revision lesson	Evidence in Teams	All of the above

	All of the above	End of topic assessment	
7	End of topic Assessment	End of topic assessment	All of the above
8	Assessment feedback lesson	Evidence in Teams	All of the above