

Year 11 Revision Checklist - Computer Science

Paper 2	RAG	Revised?	Comments
2.1 – Algorithms			
Computational thinking:			
abstraction		<input type="checkbox"/>	
decomposition		<input type="checkbox"/>	
algorithmic thinking		<input type="checkbox"/>	
Standard searching algorithms:			
binary search		<input type="checkbox"/>	
linear search		<input type="checkbox"/>	
Standard sorting algorithms:			
bubble sort		<input type="checkbox"/>	
merge sort		<input type="checkbox"/>	
insertion sort		<input type="checkbox"/>	
How to produce algorithms using:			
pseudocode		<input type="checkbox"/>	
using flow diagrams		<input type="checkbox"/>	
using high level programming language		<input type="checkbox"/>	
Interpret, correct or complete algorithms		<input type="checkbox"/>	
Structure diagrams		<input type="checkbox"/>	
Trace tables		<input type="checkbox"/>	
2.2 – Programming Fundamentals			
The use of the three basic programming constructs used to control the flow of a program:			
sequence		<input type="checkbox"/>	
selection		<input type="checkbox"/>	
iteration (count and condition controlled loops)		<input type="checkbox"/>	
The use of basic string manipulation		<input type="checkbox"/>	
Types of data:			
integer		<input type="checkbox"/>	
real		<input type="checkbox"/>	
Boolean		<input type="checkbox"/>	

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character and string		<input type="checkbox"/>	
casting		<input type="checkbox"/>	
The common arithmetic operators:			
+		<input type="checkbox"/>	
-		<input type="checkbox"/>	
/		<input type="checkbox"/>	
*		<input type="checkbox"/>	
Exponentiation (^)		<input type="checkbox"/>	
MOD		<input type="checkbox"/>	
DIV		<input type="checkbox"/>	
The common Boolean operators.		<input type="checkbox"/>	
How to use sub programs (functions and procedures) to produce structured code		<input type="checkbox"/>	
The use of basic file handling operations:		<input type="checkbox"/>	
open		<input type="checkbox"/>	
read		<input type="checkbox"/>	
write		<input type="checkbox"/>	
close		<input type="checkbox"/>	
The use of records to store data		<input type="checkbox"/>	
The use of SQL to search for data		<input type="checkbox"/>	
The use of arrays (or equivalent) when solving problems, including both one and two dimensional arrays		<input type="checkbox"/>	
Random number generation		<input type="checkbox"/>	
2.3 – Producing Robust Programs			
Defensive design considerations:		<input type="checkbox"/>	
input validation		<input type="checkbox"/>	
anticipating misuse		<input type="checkbox"/>	
authentication		<input type="checkbox"/>	
Maintainability:			
comments		<input type="checkbox"/>	
Indentation		<input type="checkbox"/>	
Use of subprograms		<input type="checkbox"/>	

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Naming conventions		<input type="checkbox"/>	
The purpose of testing		<input type="checkbox"/>	
Types of testing:			
iterative		<input type="checkbox"/>	
final/terminal		<input type="checkbox"/>	
How to identify syntax and logic errors		<input type="checkbox"/>	
Selecting and using suitable test data:			
Normal		<input type="checkbox"/>	
Boundary		<input type="checkbox"/>	
Invalid/Erroneous		<input type="checkbox"/>	
2.4 – Boolean Logic			
Simple logic diagrams using the operations AND, OR and NOT		<input type="checkbox"/>	
Truth tables		<input type="checkbox"/>	
Combining Boolean operators using AND, OR and NOT to two levels		<input type="checkbox"/>	
Applying logical operators in appropriate truth tables to solve problems		<input type="checkbox"/>	
		<input type="checkbox"/>	
2.5 – Programming Languages and Integrated Development Environments			
Characteristics and purpose of different levels of programming language:			
High Level Languages		<input type="checkbox"/>	
Low Level Languages		<input type="checkbox"/>	
The purpose of translators		<input type="checkbox"/>	
The characteristics of a compiler and an interpreter		<input type="checkbox"/>	
Common tools and facilities available in an integrated development environment (IDE):			
editors		<input type="checkbox"/>	
error diagnostics		<input type="checkbox"/>	
run-time environment		<input type="checkbox"/>	
translators		<input type="checkbox"/>	