



Grade Descriptors for GCSEs Graded 9-1: Computing (Programming)

9	<p>To achieve a Grade 9 candidates will be able to:</p> <ul style="list-style-type: none"> analyse and decompose a range of complex problems and create an algorithm without any help use a range of programming techniques in two text based languages confidently write efficient code using a wide range of techniques, data structures and recursion systematically resolve errors and build robust programs
8	<p>To achieve a Grade 8 candidates will be able to:</p> <ul style="list-style-type: none"> analyse and decompose a more complex problem and create an algorithm without any help. write an algorithm using a flow chart and pseudo code Create an accurate algorithm use a range of programming techniques in two text based languages write efficient code using a range of techniques apply MOD/DIV and exponential to solve problems systematically resolve errors and build robust programs
7	<p>To achieve a Grade 7 candidates will be able to:</p> <ul style="list-style-type: none"> analyse and decompose a complex problem, create an algorithm without any help Create an accurate algorithm use more than one text based programming language use a range of casting and file handling skills always write programs using procedure/ suitable functions write nested statements explain what exponential means access/ modify 1d and 2d arrays use a query language/search for data Tests on programs are thorough
6	<p>To achieve a Grade 6 candidates will be able to:</p> <ul style="list-style-type: none"> analyse and decompose a more complex problem, create an algorithm with some help Create a mostly accurate algorithm Have confidence in using at least one text based language use procedures in code research and find new ways to program problems (functions) create a two dimensional array solve Boolean logic problems of more than 2 levels solve an MOD/DIV problem use records to store data systematically use a range of tests on programs
5	<p>To achieve a Grade 5 candidates will be able to:</p> <ul style="list-style-type: none"> analyse and decompose a simple problem, create an algorithm with some help Create an almost perfect algorithm that includes variables, decisions and a loop use an algorithm to create a program in a text based language explain what variables/ data types are needed write a program using casting/ file handling explain what functions/procedures are

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	<ul style="list-style-type: none">• solve Boolean logic problems (2 levels)• explain MOD/DIV• create and store data in a 1d array• always test programs
4	<p>To achieve a Grade 4 candidates will be able to:</p> <ul style="list-style-type: none">• Practise writing sequences and don't require much help to make my own• work out the outcome of an algorithm using different data• Make an algorithm with a loop (iteration)• write a program with a loop (iteration)• explain where variables are required• give an example of a data type• solve a simple Boolean logic problem• know what the system life cycle is• explain why a program needs to be tested
3	<p>To achieve a Grade 3 candidates will be able to:</p> <ul style="list-style-type: none">• write a set of instructions with some processing and a decision (selection)• make an algorithm with a decision• write a program (using a block/object orientated programming language) with a decision (selection)• use a variable• add, subtract, divide and multiply 2 digit numbers
2	<p>To achieve a Grade 2 candidates will be able to:</p> <ul style="list-style-type: none">• Requires help to break problems down• make an algorithm with an input and output• write a program with an input• state what a variable is• add, subtract, divide and multiply simple numbers
1	<p>To achieve a Grade 1 candidates will be able to:</p> <ul style="list-style-type: none">•