

OCR Computer Science GCSE

2.2 - Programming fundamentals

Flashcards

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What is a variable declaration?



What is a variable declaration?

A statement that creates a variable to store data.

Example: `score = 0`



What is a constant declaration?



What is a constant declaration?

A named value that does not change while the program runs.

Example: $\pi = 3.14$



What is assignment in programming?



What is assignment in programming?

Giving a value to a variable, or updating it.

Example: $\text{total} = \text{total} + 1$



What are the three programming constructs?



What are the three programming constructs?

Sequence, selection, and iteration.



What is meant by 'selection'?



What is meant by 'selection'?

Decision making, such as IF ELSE statements.



What is meant by 'iteration'?



What is meant by 'iteration'?

Repetition or loops, such as FOR and WHILE loops.



What are arithmetic operations?



What are arithmetic operations?

Mathematical calculations, such as addition, subtraction, multiplication, and division.



What does modulus return?



What does modulus return?

Modulus returns the remainder of a division.

Example: $9 \text{ MOD } 5 = 4$



What does quotient return?



What does quotient return?

Quotient returns the largest integer from a division.

Example: $11 \text{ DIV } 5 = 2$



What are comparison operators?



What are comparison operators?

Comparison operators compare items of data, and either return True or False.



What does the symbol \neq represent?



What does the symbol \neq represent?

Not equal to.



What are the three Boolean operators?



What are the three Boolean operators?

NOT, AND, OR.



What are data types?



What are data types?

A data type defines the kind of data a variable or constant holds.



What are the 5 main data types?



What are the 5 main data types?

Integer (int), Real (float), Boolean (bool),
Character (char), and String (str).



Why are data types important?



Why are data types important?

They help the computer understand how to store and manipulate data, and allow you to perform the correct operations on data.



What does length() do?



What does `length()` do?

Returns the number of characters in a string.



What does `subString(x, y)`
do?



What does `subString(x, y)` do?

Extract a sequence of characters from a string.

Specifically: return y characters, starting from the x^{th} position in the string.



What is string concatenation?



What is string concatenation?

The joining together of two strings using the + operator.

For example: "Hi" + " there" →
"Hi there"



What two things can you do
to a file?



What two things can you do to a file?

Read to and write from it.



What must you always do
once you are done reading /
writing a file?



What must you always do once you are done reading / writing a file?

Close the file.



What is a record?



What is a record?

A record is a data structure which groups different types of data together, and is similar to a row in a database.



What is an array?



What is an array?

An array is a fixed-size data structure that only contains items of the same data type.



What is a 2D array?



What is a 2D array?

An array of arrays, similar to a database table or a grid.



What are the three main SQL commands?



What are the three main SQL commands?

SELECT, FROM, WHERE.



What is the purpose of the 'WHERE' command?



What is the purpose of the 'WHERE' command?

To apply conditions when searching.



What is a subprogram?



What is a subprogram?

A subprogram is a section of code which performs a specific task, and can be called in the main program to perform that task.



What is a function?



What is a function?

A function is a type of subprogram which returns a value.



What is a procedure?



What is a procedure?

A procedure is a type of subprogram which does not return a value.



What are parameters?



What are parameters?

Values which can be passed into a subprogram.



What is a local variable?



What is a local variable?

Local variables are defined inside a subprogram, and can only be used inside that subprogram.



What is a global variable?



What is a global variable?

Global variables are defined in the main program and can be used anywhere.



What is random number generation?



What is random number generation?

The ability to produce unpredictable numeric values within a specified range.



What are uses of random number generation?



What are uses of random number generation?

Uses may include rolling dice,
generating test values for simulation or
for testing and security in passwords.

