

OCR Computer Science GCSE

2.3 - Producing robust programs

Flashcards

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What is defensive design?



What is defensive design?

Designing and creating programs which are able to handle unexpected or erroneous inputs.



What is authentication?



What is authentication?

Authentication is the process of determining the identify of a user, such as through their username and password before granting access to a system.



What is validation?



What is validation?

Validation is the process of checking data is appropriate and sensible for its use.



What is the purpose of a presence check?



What is the purpose of a presence check?

A presence check ensures that data has been entered and not left blank.



What is the purpose of a range check?



What is the purpose of a range check?

A range check ensures that an input falls within a required numeric range.

E.g. greater than 10.



What is the purpose of a length check?



What is the purpose of a length check?

A length check ensures that a certain number of characters have been entered.



Why is it important to maintain programs?



Why is it important to maintain programs?

Programs should be maintained so they function as intended, are secure, and to prevent errors as the programs use continues.



Why is it important to have good naming conventions?



Why is it important to have good naming conventions?

Good naming conventions make it easy to understand what each variable is responsible for. This is useful when debugging or if someone else edits your code.



What are other methods of maintaining programs?



What are other methods of maintaining programs?

Using subprograms, indentation, comments, and good naming conventions.



What is the purpose of testing?



What is the purpose of testing?

Testing takes place to find any errors and rectify them.



What is the difference
between iterative and final
testing?



What is the difference between iterative and final testing?

Iterative testing takes place throughout development, making improvements and changes at the same time.

Final testing takes place at the end of development, checking for any last minute bugs.



What is a syntax error?



What is syntax error?

Syntax errors are errors which break the grammatical rules of a programming language, stopping the program from running.



What is a logic error?



What is a logic error?

A logic error is an error in the design or logic of a program, resulting in an unexpected or incorrect output.



Why are logic errors hard to identify?



Why are logic errors hard to identify?

Logic errors may be present even if the program runs, testing and tracing the program may be required to spot any logic errors in the code.



What is normal test data?



What is normal test data?

Test data which falls within the given range, usually a typical, valid input.



What is boundary test data?



What is boundary test data?

Test data which is on the edge of a valid range, such as 1 and 10 for a range of 1-10.



What is erroneous test data?



What is erroneous test data?

Test data which is invalid, such as 11 or “one” for a range of 1-10.



Why are algorithms refined?



Why are algorithms refined?

Algorithms are refined to update their functionality and capacity overtime, as well as fix any errors found through testing.

