OCR Computer Science A Level
2.1.3 Thinking Procedurally

Flashcards

What is the first stage of thinking procedurally?

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Taking the problem defined by the user and breaking it down into its constituent parts

What is the purpose of problem decomposition?

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To make complex problems easier to solve and more manageable by allowing tasks to be divided between a group of people according to individual skill sets.

State another name given to top-down design.

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Stepwise refinement

What is the purpose of top-down design?

Continually break problems down into subproblems until each subproblem can be represented as a single task and ideally a self-contained subroutine.

What are the benefits of using top-down design?

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- Problems can be solved and modules developed by different people.
- Tasks can be tested separately. Modules are self-contained

What sort of problems is top-down design suited to?

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Large, complex problems

What is the second stage of thinking procedurally in software development?

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Identifying components of a solution

How can the lowest level subproblems in top-down design in code?

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As self-contained modules or subroutines

What do software developers need to consider when recombining components of a solution?

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The order in which subroutines are executed, and how they interact with each other, based on their role in solving the problem.

What must a software developer do before designing a subroutine to solve a particular problem?

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See whether it is possible for an already existing subroutine or module to be used.

State two advantages of utilising reusable components.

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- More reliable than newly-coded components, as they have already been tested.
- This saves time, money and resources.