Understand sequence, decision and repetition in algorithm design

Key knowledge | Free preview

Learning target: Understand sequence, decision and repetition in algorithm design.

Precise pseudocode identifies stored quantities and an unambiguous next action. Sequence executes instructions in order, selection chooses a branch and repetition revisits a block. A terminating algorithm also needs a quantity that cannot decrease forever. The Euclidean algorithm illustrates these features while preserving the required greatest common divisor.

Try the mathematics

Task 1. Trace this pseudocode for a=84,b=30: WHILE b≠0: r=a mod b; a=b; b=r. RETURN a. Give every pair (a,b) after an iteration and the returned value.

Continue with the full worksheet

The complete resource has 2 focused task sets and substantive worked solutions. Use an exercise book or print the A4 worksheet. This preview shows the first task without its full solution.

Find this resource: https://resources.aspiretopowerlearning.com.au/vce/skills/sm-u1-o1-kk-14/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Specialist Mathematics; Unit 1; Outcome 1; Key knowledge; bullet 14; p. 62.

The learning target is a concise paraphrase. Aspire reference: sm-u1-o1-kk-14. This is an internal identifier, not an official VCAA code.

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