Understand computational thinking through abstraction, decomposition, patterns and algorithms

Key knowledge | Free preview

Learning target: Understand computational thinking through abstraction, decomposition, patterns and algorithms.

Use the population {0,2,4,6}, drawing uniformly and independently with replacement. Its mean is 3 and variance is 5. A simulation stores one mean per sample; a graph of $g(x)=\sqrt{(5/x)}$ provides a separate standard-error model. Record your procedure and actual outputs, using the supplied results only as checks.

Try the mathematics

Task 1. Implement two nested loops that generate 2000 sample means of size n=2. Identify the input, the value reset for each sample, the inner operation and the stored output. Give the exact theoretical benchmarks.

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-u2-o3-kk-01/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Specialist Mathematics; Unit 2; Outcome 3; Key knowledge; bullet 1; p. 71.

The learning target is a concise paraphrase. Aspire reference: sm-u2-o3-kk-01. This is an internal identifier, not an official VCAA code.

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