DATA LEVEL PARALLELISM

7:59 / 7:59 1.0x

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1. CHECK YOUR UNDERSTANDING (1/1 point)

Which of the following describes a code sequence that might be replaced by one or more SIMD instructions?

- A calculation consisting of multiple arithmetic instructions, each of which is data dependent on the previous instruction.
- A loop in which the calculation done within an iteration is used by the previous loop iteration.
- A loop in which the calculation done within an iteration is used by the following iteration.
- A loop in which the calculation done within an iteration is independent of every other iteration. ✔

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EXPLANATION

SIMD instructions perform the same operation on independent groups of data. Therefore, the first three options would not be suitable. The fourth option may be suitable since each of the iterations performs independent operations.

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