CornellX: ENGRI1210x The Computing Technology Inside Your Smartphone

🏠 **KarenWest** ▾

Courseware   **Course Info**   **Discussion**   **Wiki**   **Progress**   **Discussion Guidelines**   **Resources**   **Exploring Engineering**

Syllabus   **How to Use Jade**

Help

MEMORY TECHNOLOGY

3:20 / 3:20	**1.0x**			

Download transcript | .txt

Show Discussion

✎ New Post

CACHE

Help

| 4:37 / 4:37 | 1.0x | | | |

Download transcript   .txt

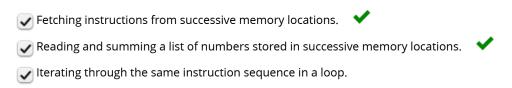Show Discussion   ✎ New Post

1. CHECK YOUR UNDERSTANDING (1 point possible)

Consider a cache with a block size of multiple instructions, or multiple data words. Which of the following operations would show a performance improvement due to *spatial*, rather than *temporal*, locality? [CHECK ALL THAT APPLY]

- ☑ Fetching instructions from successive memory locations.   ✔
- ☑ Reading and summing a list of numbers stored in successive memory locations.   ✔
- ☑ Iterating through the same instruction sequence in a loop.

EXPLANATION

By bringing in a block of instructions on a miss, the cache exploits spatial locality when successive instructions are fetched.

By bringing in a block of numbers on a miss, the cache exploits spatial locality when successive numbers are accessed.

When rereading the same instruction sequence on successive loop iterations, the cache exploits locality in time, or temporal locality.

Hide Answer　　　　*You have used 2 of 2 submissions*

Help

Show Discussion　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　✎ New Post

‹ | ›

edX

EdX offers interactive online classes and MOOCs from the world's best universities. Online courses from MITx, HarvardX, BerkeleyX, UTx and many other universities. Topics include biology, business, chemistry, computer science, economics, finance, electronics, engineering, food and nutrition, history, humanities, law, literature, math, medicine, music, philosophy, physics, science, statistics and more. EdX is a non-profit online initiative created by founding partners Harvard and MIT.

© 2015 edX Inc.

EdX, Open edX, and the edX and Open edX logos are registered trademarks or trademarks of edX Inc.

Terms of Service and Honor Code

Privacy Policy (Revised 10/22/2014)

POWERED BY
OPENedX

About edX

About

News

Contact

FAQ

edX Blog

Donate to edX

Jobs at edX

Follow Us

📘 Facebook

🐦 Twitter

in LinkedIn

g+ Google+

t Tumblr

📅 Meetup

Reddit

▶ Youtube