Q2

Due Sep 5 at 11:59pm **Points** 100 **Questions** 5
Available Sep 2 at 12am - Sep 5 at 11:59pm 4 days **Time Limit** 15 Minutes

This quiz was locked Sep 5 at 11:59pm.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	14 minutes	100 out of 100

Score for this quiz: **100** out of 100
Submitted Sep 5 at 11:29pm
This attempt took 14 minutes.

Question 1 — 20 / 20 pts

What are three parameters for measuring CPU time?

Your Answer:

1. IC: Instruction Count
2. CPI: avg cycle per instruction
3. Cycle time: each clock cycle time

IC: instruction count

CPI: average cycles per instruction

Cycle time: amount of each clock cycle (inverse of clock frequency)

Question 2

20 / 20 pts

Concisely describe what the principle of localities is.

Your Answer:

It points to a scenario of reusing data and operations. In such a scenario, a small portion of a particular application is run repeatedly. In other words, we can also say that it is a tendency of a processor to access the same set of memory locations over a shorter period of time.

Localities are a property of applications. It refers to scenarios where small portion of an application is executed repeatedly, where data and operations are reused.

This property can be used to predict what operations will perform in the future based on recent history.

Question 3

20 / 20 pts

Amdahl's Law can be used to evaluate optimizations other than CPU time

Correct!

- (●) True
- ( ) False

Question 4

20 / 20 pts

Show two reasons why more registers may not be better?

Your Answer:

1. Speed might be slower for the slower access time
2. more bits per register in instruction, so more bits are required in instruction encoding.

1. slower access time

2. more bits required in instruction encoding to encode register names.

Question 5

20 / 20 pts

What is the condition for aligned memory accesses?

Your Answer:

aligned if address mod size = 0

Memory access aligned if A mod s = 0 where

A is memory address

s is the number of bytes in a word.

Quiz Score: **100** out of 100