p4AQuestions Results for VARDAAN KAPOOR (He/him)

(!) Correct answers are hidden.

Score for this attempt: 20 out of 20

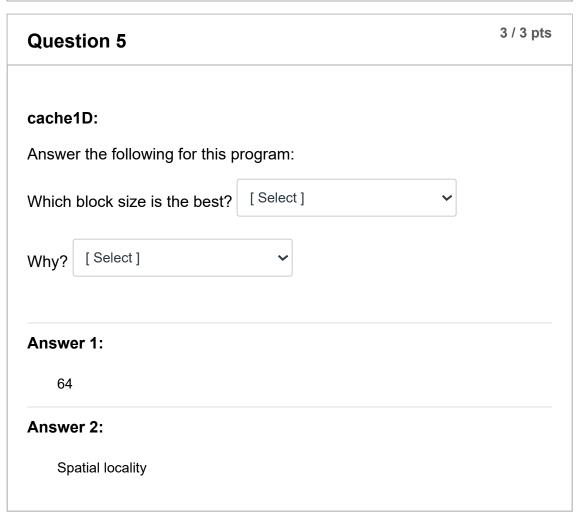
Submitted Mar 26 at 3:19pm
This attempt took 5 minutes.

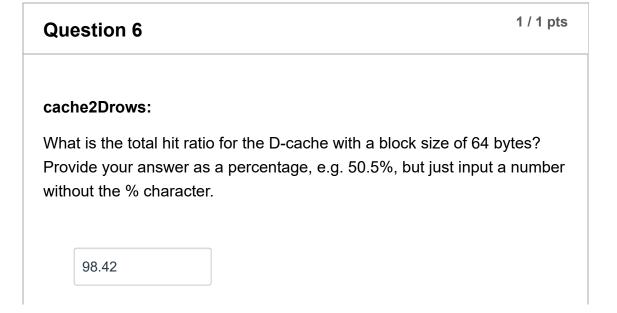
Cache1D: What is the total hit ratio for the D-cache with a block size of 4 bytes? Provide your answer as a percentage, e.g. 50.5%, but just input a number without the % character.

Cache1D: What is the total hit ratio for the D-cache with a block size of 32 bytes? Provide your answer as a percentage, e.g. 50.5%, but just input a number without the % character.

Question 3	1 / 1 pts
cache1D: What is the total hit ratio for the D-cache with Provide your answer as a percentage, e.g. 5 without the % character.	•
Question 4	2 / 2 pts
cache1D: Answer this question without running pin aga element integer array that you allocated start memory, the size of an integer is 4 bytes and empty. As you read the integers in the array of 0, how many D-cache misses will you see for when the cache block size is:	ts at address 0x50000000 in I the D-cache is initially one-by-one, starting at index
a) 4 bytes: 40	
b) 32 bytes: 5	
c) 64 bytes: ³	
Answer each part by entering an integer betw	ween 0 and 40.
Answer 1:	
40	
Answer 2:	

5			
Answer 3:			
3			
· ·			





Question 7	1 / 1 pts
cache2Dcols:	
	for the D-cache with a block size of 64 bytes? a percentage, e.g. 50.5%, but just input a number
86.72	

Question 8 2 / 2 pts

Comparing cache2Drows with cache2Dcols:

Answer this question without running pin again. Assume that the 2-D integer array you allocated starts at address 0x40000000 in memory, the size of an integer is 4 bytes, D-cache block size is 64 bytes and the D-cache is initially empty. As you read the integers in the 2-D array one-byone, starting with element array[0,0], how many D-cache misses will you see for reading the first 10 integers in case of:

a) cache2Drows:	1
b) cache2Dcols:	10

Answer each part by entering an integer between 0 and 10.

Answer 1:

1

Answer 2:

Comparing cache2Drows with cache2Dcols:

Compare the performance (hit ratio) of the D-cache for the 2 programs.

Which one is better? cache2Drows

Why? Spatial locality

Answer 1:

cache2Drows

Answer 2:

Spatial locality

Question 10

cache2Dclash:

What is the total hit ratio for the D-cache with a capacity of 1, an associativity of 1, and a block size of 32 bytes? Provide your answer as a percentage, e.g. 50.5%, but just input a number without the % character.

85.36

Question 11 1/1 pts

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What is the total hit ratio for the D-cache with a capacity of 1, an associativity of 2, and a block size of 32 bytes? Provide your answer as a percentage, e.g. 50.5%, but just input a number without the % character.

86.47

Question 12

3 / 3 pts

Understanding Cache Associativity:

Compare the performance (hit ratio) of the D-cache for the 2 levels of associativity.

Which associativity level results in better performance? 2

Why does that associativity level perform better? It doesn't replace cache lines as frequently.

Answer 1:

2

Answer 2:

It doesn't replace cache lines as frequently.

Quiz Score: 20 out of 20