

DS5110/CS5501 Caching Policy Worksheet

Problem 1

FIFO, size 2:

1, 2 (full), 3, take out 1, put in 1 (full)

recent

Data. Hit?

- 1 ☐ miss, starting with an empty state
- 2 ☐ miss
- 1 ☐ hit, because it's there
- 3 ☐ miss,d
- 1 ☐ miss

Hit ratio: 1/5 = 0.2

Problem 2

LRU, size 2:

A, B (full)

recent

Data. Hit?

- A ☐ miss
- B ☐ miss
- A ☐ hit
- C ☐ miss
- A ☐ hit

Hit ratio: 2/5 = 0.4

Problem 3

LRU, size 3:

W, X, Y, evict W and add Z

recent

Data. Hit?

- W ☐ miss
- W ☐ hit
- X ☐ miss
- Y ☐ miss
- Y ☐ hit
- Z ☐ miss
- Y ☐ hit
- X ☐

Hit ratio: 4/8 = 0.5

Miss latency: 20 ms

Hit latency: 0.1 ms

Average latency: _____

Problem 4

Data. Hit?

3	<input type="checkbox"/>
4	<input type="checkbox"/>
5	<input type="checkbox"/>
6	<input type="checkbox"/>
7	<input type="checkbox"/>
3	<input type="checkbox"/>
4	<input type="checkbox"/>
5	<input type="checkbox"/>
6	<input type="checkbox"/>
7	<input type="checkbox"/>

LRU, size 4:

	recent
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Hit ratio: _____

Problem 5

Data. Hit?

3	<input type="checkbox"/>
4	<input type="checkbox"/>
5	<input type="checkbox"/>
6	<input type="checkbox"/>
7	<input type="checkbox"/>
3	<input type="checkbox"/>
4	<input type="checkbox"/>
5	<input type="checkbox"/>
6	<input type="checkbox"/>
7	<input type="checkbox"/>

LRU, size 5:

	recent
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Hit ratio: _____