

Student Name: _____

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Quiz 2. Buffer replacement policies

You have implemented the following nested loop:

A: a, b
B: c, d, e, f

for each record i in A
for each record j in B
do something with i and j

You have 3 buffer frames available for table A, and 3 buffer frames for table B.

We know that if we use LRU replacement policy, we would have 2 disk I/Os for A and 8 disk I/Os for B: total 10 disk I/Os.

Count the total number of disk I/Os, if you use the following page replacement policies:

1. Most recently used (MRU)

req.	a	a	a	a	b	b	b	b	
3 frames for A - enough									
3 frames for B < B	req.	c	d	e	f	c	d	e	f

2. LRU-2 (evict second least used)

req.	a	a	a	a	b	b	b	b	
3 frames for A - enough									
3 frames for B < B	req.	c	d	e	f	c	d	e	f

Which replacement policy would you recommend for nested loops? _____