

	OBJECTIVES	
Concurrent Date	ata Structures	
Performance		
Lock Granular	ity	
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		JL	JEEI	COUR	IIER -	2	
■ Upo ■ Syr ■ Thr	date thi ichroni: eads u	reshold (zed acro pdate lo	S) = 5 ss four C cal CPU (PU core	s		
	Time	L ₁	L ₂	L ₃	L4	G	
	0	0	0	0	0	0	-
	1	0	0	1	1	0	
	2	1	0	2	1	0	
	3	2	0	3	1	0	
	4	3	0	3	2	0	
	5	4	1	3	3	0	
	6	5 → 0	1	3	4	5 (from L ₁)	
	7	0	2	4	5 → 0	10 (from L ₄)	





	CON	NCURRENT LINKED LIST - 1	
= S	implificatio	n - only basic list operations shown	
s St	tructs and i	nitialization:	
	1 // k 2 type 3 4 5 } nc 6 7 // k 8 type 9 10	<pre>saic node structure def struct</pre>	
	11 } 1i 12 13 void 14 15 16 } 17 (Cont.)	<pre>ist_t; I = 1 i List_Int = t) { L->head = NULL; pthread_mutex_init(&L->lock, NULL); </pre>	
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L8.19

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CONCURRENT HASH TABLE		
1	<pre>#define BUCKETS (101)</pre>	
2		
3	typeder structnash_t {	
4	list_t lists[BUCKETS];	
5	} hash_t;	
0	and determined with the state of any of	
	Void Hasn_init(nasn_t ^H) {	
0	Int 17	
9	10r (1 = 0; 1 < BUCKETS; 1++) (
10	bist_init(an->iists(i));	
12		
13)	
14	int Wash Treat (bash t #W int key) (
15	int bucket = key & BUCKETS;	
16	return List Insert(&H->lists(bucket), kev);	
17)	
18	,	
19	int Hash Lookup(hash t *H, int key) {	
20	int bucket = key % BUCKETS;	
21	return List Lookup(&H->lists[bucket], key);	
22)	
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