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DS ch 5

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Problems: 1, 2, 10, 12, 20, 27

5.1)

1)

0

1 [4371]

2 []

3 [1323, 6173]

4 [4344]

5 []

6 []

7 []

8 []

9 [4199, 9679, 1989]

10

2)

0 [9679]

1 [4371]

2 [989]

3 [1323]

4 [6173]

5 [4344]

6 []

7 []

8 []

9 [4199]

3) 0 [9679]  
 1 [4371]  
 2 [ ]  
 3 [1323]  
 4 [6173]  
 5 [4344]  
 6 [ ]  
 7 [ ]  
 8 [1981]  
 9 [4199]

4) 0 [ ]  
 1 [4371]  
 2 [ ]  
 3 [1323]  
 4 [6173]  
 5 [9679]  
 6 [ ]  
 7 [4344]  
 8 [ ]  
 9 [4199]

5.2) 1) 0 [4199] 10  
 1 [4371] 11  
 2 12 [1323, 4344]  
 3 13  
 4 14  
 5 15  
 6 16  
 7 17 [6173]  
 8 [9679] 18  
 9 19

2)	0 [41199]	10
	1 [4371]	11
	2	12 [1323]
	3	13 [4344]
	4	14
	5	15
	6	16
	7	17 [6173]
	8 [9679]	18
	9	19

5.8)

- Separate chaining requires links which use memory and overhead
- linear probing eliminates the need for links but can result in clustering or secondary collisions
- exponential probing can be difficult to implement

5.27)

000 [000000, 00001011, 00101011]	100 [10010110, 10011011, 10011110]
001	101 [10111101, 10111110]
010 [01010000, 01100001]	110
011 [01101111, 01111111]	111 [11001111, 11011011, 11100000]