

Spring_2018_INFO6205_Se... 35 minutes

Questic Linear Pr		SCORE: 20 points	
as an Ha the hash	we are using Hash(k) = $3 * k \% 13$, and an array of size 13 sh Table, what's the result after put the below number into table if we use linear probing? (* represent there is no value sh table) Number in order: $22 -> 40 -> 36 -> 55 -> 24 -> 27 -$		
	* 22 * 40 36 27 * 24 * 55 28 * *		
	22 * 40 36 27 28 24 * 55 * * * *		
	22 * 27 36 28 * 24 * 55 * * * *		
•	* 22 * 40 36 27 28 24 * 55 * * *		
	* 22 * 40 27 36 * 24 * 55 * * *		
	* 22 * 27 36 28 * 24 * * * * *		
	* 22 * 40 36 * * 24 * 55 * * *		
Question - 2 Hash Function1		SCORE: 20 points	
Suppose we have an instance of a class which contains 2 attributes: Name and ID. We manually override the hash function and our own hash function will calculate both attributes (eg. name.hashCode() + ID). First, we add this instance into an empty HashSet. Then we modify the ID of this instance (eg. setID(xxx)). This time, when we call contains function (contains(instance)), what will we get?			
	Null		
	True		
•	False		
	Runtime Error		
Questic Hash Fur		SCORE: 20 points	
Based on the above question, what if we use the default hash function (not override with our own hash function), what will we get?			
	Null		
•	True		

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Question - 4 Bonus!	SCORE: 20 points	
Briefly explain why for Q2 and Q3		
Question - 5 Coding	SCORE: 40 points	
Given a string, find the first non-repeating character in it and return it's index. If it doesn't exist, return -1. The string may contain upper case, lower case, number, and symbol.		
Example:		
Str = "qwerty" return: 0		
Str = "qqwer" return: 2		
Str = "qqq" return -1		