A

Section: _____ ID: _____ Name in CAPITAL: _____

Question 1 [10 marks]

Design **crissCrossJoin()** method that takes two heads of two different singly linked lists in its parameter. The method cuts the linked lists in half then joins the first half of the first linked list with the last half of the second linked list and vice versa. The method doesn't return anything since the head remains the same. You can assume the length of the linked list will always be even.

Note: You are NOT allowed to create any new nodes. Assume a Node class is given with elem and next variable.

Sample Given LinkedList & Function Call		Sample Modified LinkedList
A -> B -> C -> D -> E -> F	PYTHON crissCrossJoin(h1, h2)	A -> B -> C -> J -> K -> L
G -> H -> I -> J -> K -> L	JAVA crissCrossJoin(h1, h2);	G -> H -> I -> D -> E -> F

Question 2 [5 marks]

Write one advantage of array over linked list? [1 mark]
When do we get StackOverflow errors? [1 mark]
IWhat are the last indices of a 3D Matrix shaped (3x7x4) ? [1 mark]

```
function hash( k ) ->
    if (k%2!=0)
        return (k+1)*2%5
    else
        return (k/2)%5
```

A pseudo code of a hash function is given above. Also, the empty HashTable has already been created for you in the output box showing all indices.

Utilize the hash function above to execute the insert functions below and fill up the HashTable. Insert function takes integer key & String value as parameter. If collision occurs then solve using chaining.

insert(10, "Quiz")   **[1 mark]**
insert(18, "Easy")   **[1 mark]**

0	1	2	3	4

BONUS
A 6D Tensor of shape (5,4,6,2,6,2) contains how many 2D Matrices? **[1 mark]**