Birla Institute of Technology and Science, Pilani,

Second Semester 2022-23

CS F211 – DSA

Lab Test - I

Q_No	**Marks Distribution**		
Defining the structures: 5 M	Marks: 5, Properly defined all three structures as per the problem statement	Marks 3: if two of three structures are defined. Marks 1: If one out of three structures is defined.	-1 in each of them for a mistake
readData(): 16 M	Execution: 6 M		
	Logic: 8 M: 2M (for file opening, closing) + 2M (Creation of arrays+ creation of empty linked lists) + 3M (for correct logic of reading a word and inserting into the array) + 1M (returning the array)		If insertion of a word into the array is not O(1), give 0/3 for insertion logic.
	Indentation: 1 M	Documentation: 1 M (If properly documented the logic part)	
findmaxGap(): 10 M	Execution: 4 M	Give zero for execution, if complexity is not met.	
	Logic 5 M:	If he is doing a linear scan on the array to find the maximum gap between two consective elements of the array give 5/5. If he is trying to use a costlier operation - give zero.	
	Indentation + Documentation: 1 M		
partitionLists(): 16M	Execution: 6 M	If logic is not O(n), give zero for execution.	
	Logic 8 M: 2M for creation of buckets (two linked lists or two large arrays) + 3M for copying elements into those buckets + 3M for copying those elements back into the original linked list.	Logic 8M: 4M for deletion of a node, 2M for insertion at the end, 2M for proper loop termination conditions	Either use bucket sort to partition, or use swapping method. Any other method gets zero.
	Indentation: 1 M	Documentation: 1 M (If properly documented the logic part)	
printData(): 6M	Execution: 2 M		
	Logic: 3 M	-1 for each logical mistake.	
	Indentation + Documentation: 1 M		
mergeSortBuckets(): 16M	Execution: 6 M	Execution zero if not iterative merge sort.	
	Logic 8 M: 5M for the merge sort function + 3M for merge	Give 3/8 if merge sort is recursive, but merge is logically correct.	
	Indentation: 1 M	Documentation: 1 M (If properly documented the logic part)	
main(): 6M	6M: If ordering is correct.	1M each for individual task (syntax for each task must be corrects as per student's design of functions.)	