

B2_Assignment 7: Data Structures Div. A

Sr. No	Problem statement	Roll Nos	
1	WAP to simulate faculty database as a hash table. Search a particular faculty by using MOD as a hash function for linear probing method of collision handling technique. Assume suitable data for faculty record.	2	66
2	WAP to simulate faculty database as a hash table. Search a particular faculty by using 'divide' as a hash function for linear probing with chaining without replacement method of collision handling technique. Assume suitable data for faculty record.	8	63
3	WAP to simulate faculty database as a hash table. Search a particular faculty by using MOD as a hash function for linear probing with chaining with replacement method of collision handling technique. Assume suitable data for faculty record.	55	64
4	WAP to store k keys into an array of size n at the location computed using a hash function, $loc = key \% n$, where $k \leq n$ and k takes values from [1 to m], $m > n$. To handle the collisions use the following collision resolution techniques, a. Linear probing with chaining b. Rehashing technique.	58	65
5	WAP to simulate employee database as a hash table. Search a particular faculty by using Mid square method as a hash function for linear probing method of collision handling technique. Assume suitable data for faculty record.	59	67
6	WAP to simulate faculty database as a hash table. Search a particular faculty by using 'divide' as a hash function for linear probing with chaining without replacement method of collision handling technique. Assume suitable data for faculty record.	61	12
7	WAP to simulate employee database as a hash table. Search a particular faculty by using Mid square Method as a hash function for linear probing with chaining with replacement method of collision handling technique. Assume suitable data for faculty record.	68	7
8	In a lab there were 10 computers which are having numbers as 21 to 30. Students registered for a lab are 10 only. Design appropriate hash function to assign a computer to every student. Now assume that three students are absent of this batch so another batch students want to use computers in this lab. Allocate the computers to these new students by using linear probing with chaining without replacement.	69	38
9	In Computer Engg. Dept. of VIT there are S.Y., T.Y., and B.Y. students. Assume that all these students are on ground for a function. We need to identify a student of S.Y. div. (X) whose name is "XYZ" and roll no. is "17". Apply appropriate searching method to identify a required student.	70	48

10	WAP to store k keys into an array of size n at the location computed using a hash function, $loc = key / n$, where $k \leq n$ and k takes values from [1 to m], $m > n$. To handle the collisions use the following collision resolution techniques, a. Linear probing with chaining with replacement b. Quadratic probing technique.	72	45
11	In a lab there were 15 computers which are having numbers as 35 to 50. Students registered for a lab are 14 only. Design appropriate hash function to assign a computer to every student. Now assume that two students are absent of this batch so another batch's three students want to use computers in this lab. Allocate the computers to these new students by using linear probing with replacement.	62	49
12	Consider two sets of integers, $S = \{s_1, s_2, \dots, s_m\}$ and $T = \{t_1, t_2, \dots, t_n\}$, $m \leq n$. Implement an algorithm that uses a hash table of size m to test whether S is a subset of T.	51	
13	WAP to store k keys into an array of size n at the location computed using a hash function, $loc = key / n$, where $k \leq n$ and k takes values from [1 to m], $m > n$. To handle the collisions use the following collision resolution techniques, a. Linear probing with chaining with replacement b. Quadratic probing technique.	15	