

COMP 785 Advanced Algorithms Spring 2007 Assignment 6

Do the following problems from the text.

11.1-2

11.2-2

11.3-4

11.4-1

11.4-2

Programming assignment:

Use double hashing to insert the records (implemented as structs or objects) shown below into a hash table; the `id` field is the key field. Choose your own table size, m , and devise your own auxiliary hash functions, h_1 and h_2 – you will find the division method easiest. Also write a search function that, given a key, returns the index in the table of the record with that key if there is such a record; if not, it should return a special value that is not a valid table index. After you have inserted all the indicated records, search for the records with the keys indicated below. If the record is found, output its `id` and `cost` fields; if not, output the key (`id`) sought and a message that there is no such record. The insertions and searches should be hard-coded into your program. Have your program output the entire hash table in readable form after the records have been inserted into it. Submit your program to the digital drop box on Blackboard.

Records to insert:

<u>id (key)</u>	<u>cost</u>
16	1.00
3	1.25
37	1.50
22	1.75
30	2.00
12	2.25
18	2.50
34	2.75
7	3.00
25	3.25
41	3.50
29	3.75
39	4.00
6	4.25

Keys to search for:

3, 14, 21, 36, 39