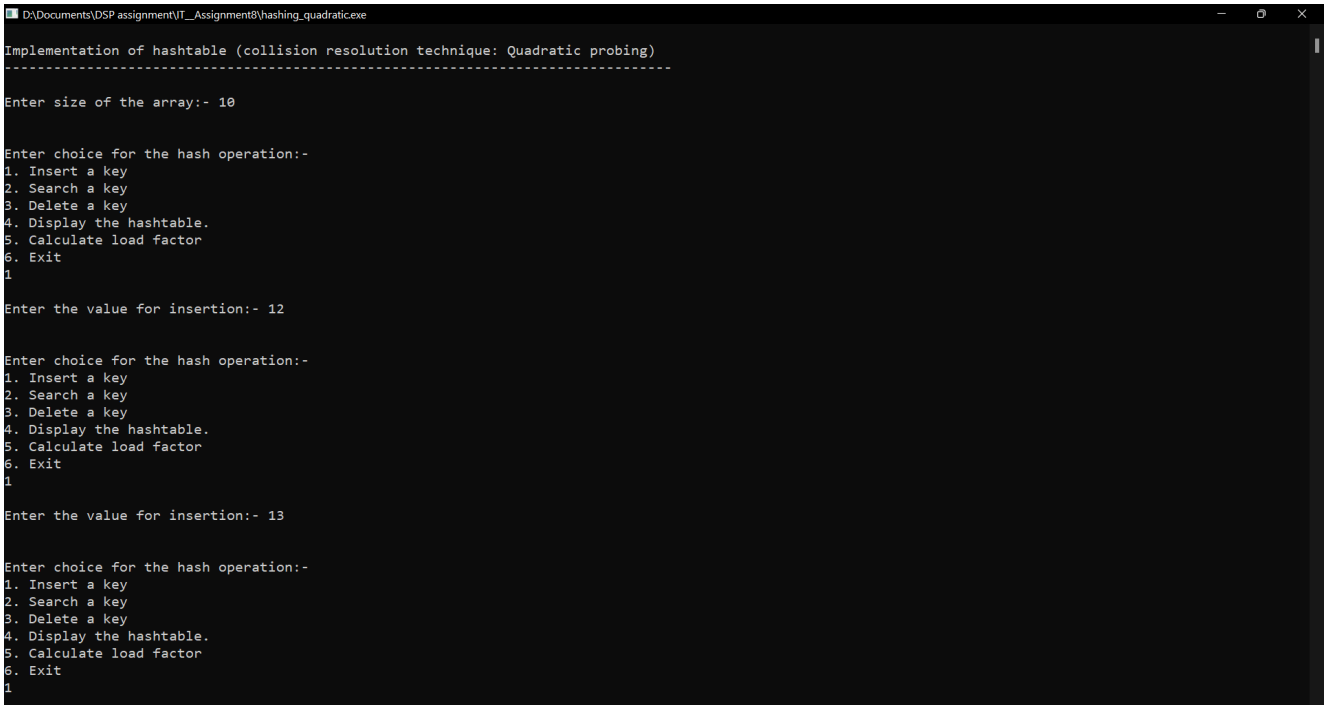
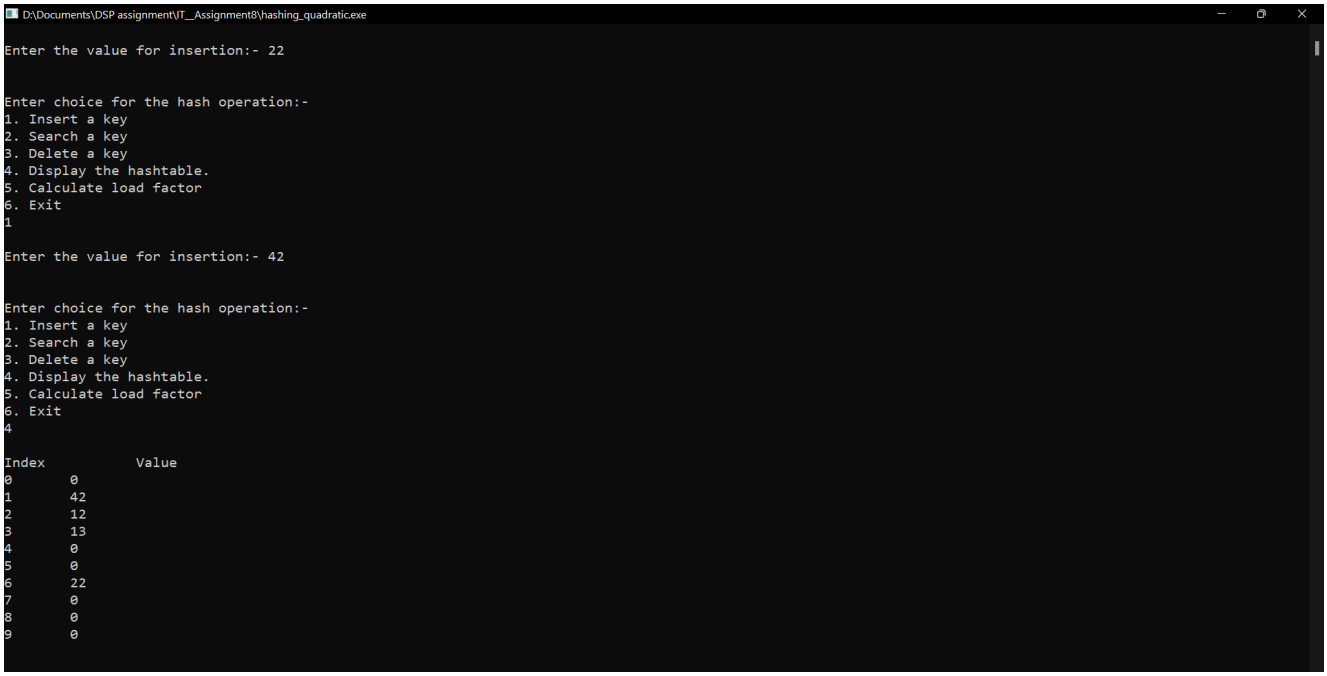
## Implementation of hashtable (collision resolution technique: Quadratic probing):-

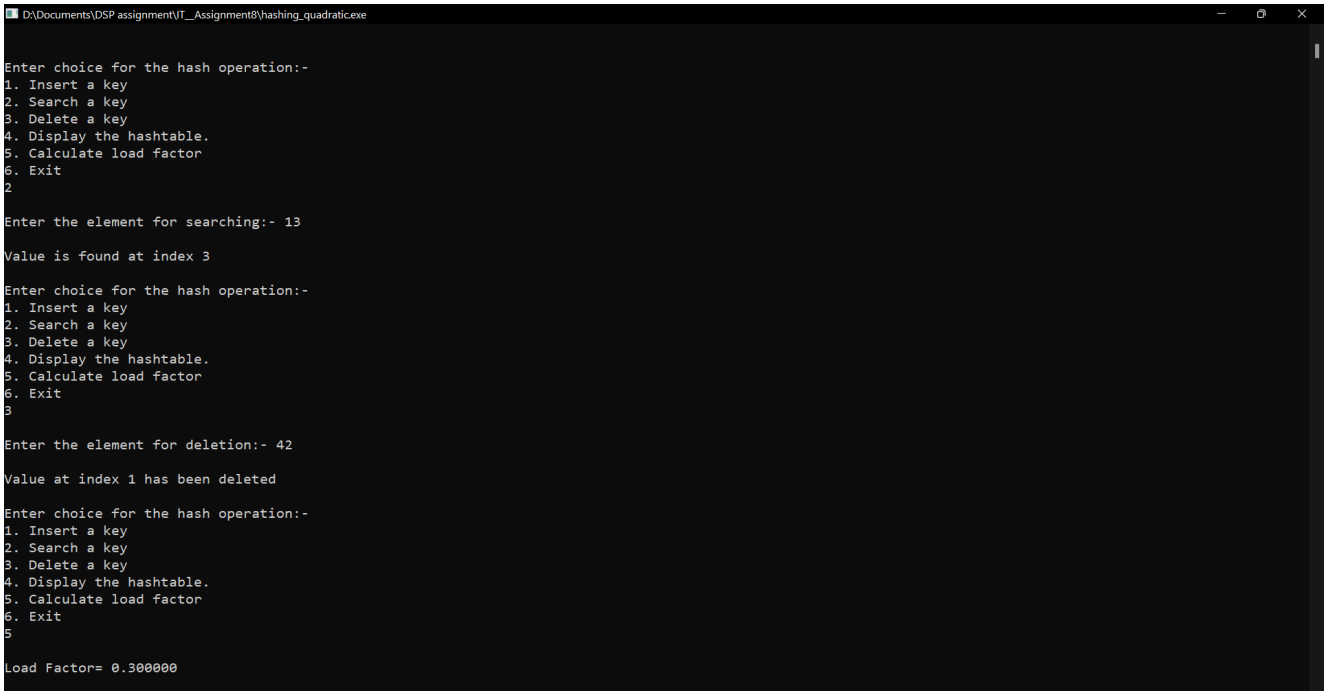
Following are the various functions used in the program.

1. insert(): This function is used to insert a value into the hashtable. It takes the array as an argument and if for some value it can't be inserted into the hash table then it prints a message onto the output screen.
2. search(): This function is used to search for a value if its present in the hash table. It then prints the index where the value is present. If the value is not found in the hash table then it prints a message onto the output screen.
3. delete_value(): This function is used to delete a value and replace its value with -1 in the hash table.
4. display(): This function is used to display the entire hash table on the standard output.
5. load_factor(): This function is used to calculate the load factor of the hash table.
6. main(): Program execution starts from the main function. As per user choice, it performs the hashing operations and gives the desired output.

OUTPUT:-




D:\Documents\DSP assignment\IT__Assignment8\hashing_quadratic.exe
Enter the value for insertion:- 22
Enter choice for the hash operation:-
1. Insert a key
2. Search a key
3. Delete a key
4. Display the hashtable.
5. Calculate load factor
6. Exit
1
Enter the value for insertion:- 42
Enter choice for the hash operation:-
1. Insert a key
2. Search a key
3. Delete a key
4. Display the hashtable.
5. Calculate load factor
6. Exit
4
Index Value
0 0
1 42
2 12
3 13
4 0
5 0
6 22
7 0
8 0
9 0


D:\Documents\DSP assignment\IT__Assignment8\hashing_quadratic.exe
Enter choice for the hash operation:-
1. Insert a key
2. Search a key
3. Delete a key
4. Display the hashtable.
5. Calculate load factor
6. Exit
2
Enter the element for searching:- 13
Value is found at index 3
Enter choice for the hash operation:-
1. Insert a key
2. Search a key
3. Delete a key
4. Display the hashtable.
5. Calculate load factor
6. Exit
3
Enter the element for deletion:- 42
Value at index 1 has been deleted
Enter choice for the hash operation:-
1. Insert a key
2. Search a key
3. Delete a key
4. Display the hashtable.
5. Calculate load factor
6. Exit
5
Load Factor= 0.300000