FLCD Symbol Table Documentation

Link to github repository:

https://github.com/dianaaadumitru/FLCD/tree/main/lab2

Problem Requirements:

Implement the Symbol Table (ST) as the specified data structure, with the corresponding operations.

Symbol Table:

The structure of the Symbol Table is a Hash Table.

The Hash Table is kept as a Java list of lists.

The hash function is computed as follows:

- keySum = 0
- each character of the string (key) is converted to ascii and added to the sum
- keySum % size is returned

The operations implemented by the Hash Table are:

- add(key) – adds a key to the symbol table; returns the index of the HT and the position of the key in the list if the key already exists, otherwise it adds it and then return the pair previously described;
- contain(key) – checks if the key is present in the hash table, returns true if it is, false otherwise;
- getPosition(key) – returns a pair formed of index of the HT and the position of the key in the list if the key exists in HT, <-1, -1> otherwise;
- removeItem(key) – removes a key from the symbol table; returns true if the key was removed and false if it was not present;