CSE 208
Online 4 (Hashing)
Section C
Time: 20 minutes

You have to prepare a national index for storing and searching for information about the citizens of our country. The index should store 3 information about a citizen: name, NID number, and phone number. We should be able to search the index by any of the three information. The program should output all information of the searched citizen, if available. The run-time complexity for storing or searching information about a single citizen should be $O(|s_1|+|s_2|+|s_3|)$, where s_1 is his name, s_2 is his NID number, and s_3 is his phone number. You can assume that the total number of records in the index will be less than 1000.

Input / Output

The program will be menu-based and interactive. There will be options to 1. input data into the index and 2. search data from the index.

At the top menu, if 1 is pressed, we should be able to input the information of a citizen. Then 3 inputs will be given in consecutive lines. These are the name, NID number, and phone number of the citizen.

At the top menu, if 2 is pressed, we should be able to search for a citizen. We will input a string. If the string exactly matches the name, NID number, or phone number of any of the citizens, all the information of that citizen should be printed.

Sample Input/Output

```
Enter choice: 1. Enter Data, 2. Search Index
1
Enter name: John Doe
Enter NID no: 0123456789
Enter phone no: 01234567890
Enter choice: 1. Enter Data, 2. Search Index
2
Enter search string: John Doe
Match Found:
Name: John Doe
NID no: 0123456789
Phone no: 01234567890
Enter choice: 1. Enter Data, 2. Search Index
2
Enter search string: Will Smith
No match found
```