

In his exalted name

## CE101: Midterm Exam (6 May, 2023)

Write a program in C language that reads a list of names and phone numbers, stores them, and allows the user to search for a name or number.

- Maximum list size is **100 entries**
- Maximum name length is **8 characters [a-zA-Z]**
- Maximum number length is **18 digits [0-9](-+)**
- Name and number pairs are separated by a comma ( , )
- A single `~` character indicates the end of the list

### Part I

The program reads the data, stores them, and then shows a prompt for user commands.

```
Ali,64542725
Negar,(071)5566-2030
Negar,09175601456
Farhad,+989125306032
Zahra,0016437089
~
Search>
```

`Search>` is the prompt and maximum user input on prompt is **20 characters**.

If the user enters an empty line, then the program terminates.

```
Search>
Goodbye
```

### Part II

The user can search an entry by name,

```
Search> Ali
64542725
Search> Zahra
0016437089
Search>
```

*If there are multiple numbers for a given name, you must print out all of them.*

Enable case-insensitive search,

```
Search> farHAD
+989125306032
Search>
```

## Part III

If the user types `list(n)`, the program lists the **last** `n` entries.

```
Search> list(2)
Farhad,+989125306032
Zahra,0016437089
```

*If `n` is greater than the total number of entries, show all entries.*

## Bonus (extra points)

Implement search by number,

```
Search> 91
Negar
Farhad
Search> (071)5566-2030
Negar
```

*Ignore `(`, `,` `)`, and `-` when you search by number.*