

## My Project

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# Chapter 1

## Class Index

### 1.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

<a href="#">dane</a>	.....	5
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<a href="#">szuflada</a>	.....	6



## Chapter 2

# File Index

### 2.1 File List

Here is a list of all documented files with brief descriptions:

<a href="#">edit.hpp</a>	The file contains function that allows the user to edit some of his data in database . . . . .	7
<a href="#">listy_funkcje.hpp</a>	The file is a set of all data structures and functions responsible for creation, manipulation and editing the list of lists. Those function are used throughout the program . . . . .	8
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## Chapter 3

# Class Documentation

### 3.1 dane Union Reference

```
#include <listy_funkcje.hpp>
```

#### Public Attributes

- int **some\_int**
- float **some\_float**

#### 3.1.1 Detailed Description

Union that helps store numeric data since it contains an integer and float variable. It is used inside the 'szuflada' nodes.

The documentation for this union was generated from the following file:

- [listy\\_funkcje.hpp](#)

### 3.2 osoba Struct Reference

```
#include <listy_funkcje.hpp>
```

#### Public Attributes

- struct [osoba](#) \* **prev**
- string **name**
- string **acc\_type**
- string **password**
- struct [osoba](#) \* **next**
- struct [szuflada](#) \* **info**

### 3.2.1 Detailed Description

Structure which holds some of the user data (name, account type, password) as strings. It also contains a pointer of type 'szuflada'(it points to the first element of 'szuflada' list), and two pointers of type 'osoba' to point previous and next node of type 'osoba'.

The documentation for this struct was generated from the following file:

- [listy\\_funkcje.hpp](#)

## 3.3 szuflada Struct Reference

```
#include <listy_funkcje.hpp>
```

### Public Attributes

- struct [szuflada](#) \* **prev**
- int **type**
- union [dane](#) **d**
- struct [szuflada](#) \* **next**

### 3.3.1 Detailed Description

Structure which holds user numeric data - it uses a union to do so. It also contains an integer variable which indicates number between 1-3. The number in this variable informs what kind of information is stored in union in the specific 'szuflada' node (1 for account number, 2 for phone number, 3 for account balance). Moreover, the structure has two 'szuflada' pointers for previous and next node of type 'szuflada'.

The documentation for this struct was generated from the following file:

- [listy\\_funkcje.hpp](#)

## Chapter 4

# File Documentation

### 4.1 edit.hpp File Reference

The file contains function that allows the user to edit some of his data in database.

```
#include <iostream>
#include <fstream>
#include <string>
#include <sstream>
#include <cmath>
#include "listy_funkcje.hpp"
```

#### Functions

- void `edit` ()

#### 4.1.1 Detailed Description

The file contains function that allows the user to edit some of his data in database.

##### Author

Oliwia Mlonek

#### 4.1.2 Function Documentation

##### 4.1.2.1 `edit()`

```
void edit ( )
```

Function that allows select which user data will be edited and edit it based on the user input.

## 4.2 listy\_funkcje.hpp File Reference

The file is a set of all data structures and functions responsible for creation, manipulation and editing the list of lists. Those function are used throughout the program.

```
#include <iostream>
#include <fstream>
#include <string>
#include <sstream>
```

### Classes

- union [dane](#)
- struct [szuflada](#)
- struct [osoba](#)

### Functions

- void [insert\\_name](#) (struct [osoba](#) \*\*head, string new\_data1, string new\_data2, string new\_data3)
- void [insert\\_a\\_num](#) (struct [szuflada](#) \*\*head, int new\_data)
- void [insert\\_a\\_phone](#) (struct [szuflada](#) \*\*start, int new\_data)
- void [insert\\_acc\\_balance](#) (struct [szuflada](#) \*\*start, float new\_data)
- void [fill\\_list](#) (struct [osoba](#) \*\*head, int \*counter)
- void [delete\\_list](#) (struct [osoba](#) \*\*head)
- void [swapNode](#) (struct [osoba](#) \*\*head\_ref, int x, int y)

### 4.2.1 Detailed Description

The file is a set of all data structures and functions responsible for creation, manipulation and editing the list of lists. Those function are used throughout the program.

#### Author

Oliwia Mlonek

### 4.2.2 Function Documentation

#### 4.2.2.1 delete\_list()

```
void delete_list (
    struct osoba ** head )
```

Function that deletes the given list of list.

## Parameters

<i>head</i>	a pointer of type "osoba" to the first node of the "osoba" list.
-------------	------------------------------------------------------------------

## 4.2.2.2 fill\_list()

```
void fill_list (
    struct osoba ** head,
    int * counter )
```

Function that reads data from the database text file 'Dane' and creates a list of lists based on it. Additionally, it counts the number of "osoba" nodes in the created list of lists.

## Parameters

<i>head</i>	a pointer of type "osoba" to the first node of the "osoba" list.
<i>counter</i>	integer pointer which value is changed inside the function. Its final value is the number of nodes in the "osoba" list.

## 4.2.2.3 insert\_a\_num()

```
void insert_a_num (
    struct szuflada ** head,
    int new_data )
```

Function creates and inserts a node of type "szuflada" at the end of the "szuflada" list in created list of lists. This will contain the information about account number.

## Parameters

<i>head</i>	a pointer of type "szuflada" to the first node of the "szuflada" list.
<i>new_data</i>	an integer variable which contains information about account number.

## 4.2.2.4 insert\_a\_phone()

```
void insert_a_phone (
    struct szuflada ** start,
    int new_data )
```

Function creates and inserts a node of type "szuflada" at the end of the "szuflada" list in created list of lists. This node will contain the information about phone number.

**Parameters**

<i>start</i>	a pointer of type "szuflada" to the first node of the "szuflada" list.
<i>new_data</i>	an integer variable which contains information about account number.

**4.2.2.5 insert\_acc\_balance()**

```
void insert_acc_balance (
    struct szuflada ** start,
    float new_data )
```

Function creates and inserts a node of type "szuflada" at the end of the "szuflada" list in created list of lists. This node will contain the information about account balance.

**Parameters**

<i>start</i>	a pointer of type "szuflada" to the first node of the "szuflada" list.
<i>new_data</i>	a float variable which contains information about account balance.

**4.2.2.6 insert\_name()**

```
void insert_name (
    struct osoba ** head,
    string new_data1,
    string new_data2,
    string new_data3 )
```

Function creates and inserts a node of type "osoba" at the end of the "osoba list" in created list of lists.

**Parameters**

<i>head</i>	a pointer of type "osoba" to the first node of the "osoba" list.
<i>new_data1</i>	a string variable which contains information about 'name'.
<i>new_data2</i>	a string variable which contains information about 'acc_type' (selected type of account).
<i>new_data3</i>	a string variable which contains information about 'password', created previously by the user.

**4.2.2.7 swapNode()**

```
void swapNode (
    struct osoba ** head_ref,
    int x,
    int y )
```

Function that swaps "osoba" nodes in the list of list.

## Parameters

<i>head_ref</i>	a pointer of type "osoba" to the first node of the "osoba" list.
<i>x</i>	an integer variable that holds the account number of the account. Based on this information the first node to be swapped is found in the list.
<i>y</i>	an integer variable that holds the account number of the account. Based on this information the second node to be swapped is found in the list.

## 4.3 menu.hpp File Reference

The file contains only the function of the program which launches the main application menu.

```
#include <stdio.h>
#include <iostream>
#include <fstream>
#include <string>
#include <sstream>
#include "menu.hpp"
#include "listy_funkcje.hpp"
```

## Functions

- void `menu` (void)

### 4.3.1 Detailed Description

The file contains only the function of the program which launches the main application menu.

## Author

Oliwia Mlonek

### 4.3.2 Function Documentation

#### 4.3.2.1 menu()

```
void menu (
    void )
```

Function which is responsible for displaying the main menu of the application and selecting the option that the user wants to use.

## 4.4 new\_account.hpp File Reference

The file the functions that are responsible for creating a new user account and entering it into the database in a text file 'Dane'.

```
#include <iostream>
#include <fstream>
#include <string>
#include <sstream>
#include <cmath>
#include "listy_funkcje.hpp"
```

### Functions

- void [new\\_account](#) ()
- bool [isNumber](#) (string s)

#### 4.4.1 Detailed Description

The file the functions that are responsible for creating a new user account and entering it into the database in a text file 'Dane'.

#### Author

Oliwia Mlonek

#### 4.4.2 Function Documentation

##### 4.4.2.1 isNumber()

```
bool isNumber (
    string s )
```

Bool function responsible for checking whether the text given by the user contains only numbers.

#### Parameters

s	a string which contain a text typed by the user.
---	--------------------------------------------------

#### Returns

true if there are no letters or symbols, false if a letter or symbol was found.



#### 4.4.2.2 new\_account()

```
void new_account ( )
```

Function that allows creating a new account in the 'application'.

## 4.5 overview.hpp File Reference

The file contains functions responsible for searching and displaying user data.

```
#include "listy_funkcje.hpp"
#include <iostream>
#include <fstream>
#include <string>
#include <sstream>
#include <cmath>
```

### Functions

- void [overview](#) ()
- void [bubbleSort](#) ([osoba](#) \*start)

#### 4.5.1 Detailed Description

The file contains functions responsible for searching and displaying user data.

#### Author

Oliwia Mlonek

#### 4.5.2 Function Documentation

##### 4.5.2.1 bubbleSort()

```
void bubbleSort (
    osoba * start )
```

Function that contains the "Bubble Sort" sorting algorithm. Sorts 'osoba' nodes (in ascending order) based on the account number in the 'szuflada' list inside this nodes.

#### Parameters

<i>start</i>	a pointer of type "osoba" to the first node of the "osoba" list.
--------------	------------------------------------------------------------------

#### 4.5.2.2 overview()

```
void overview ( )
```

Function that allows to view and search user data.

## 4.6 transactions.hpp File Reference

The file contain a function responsible for carrying out transactions between users.

```
#include <stdio.h>
```

### Functions

- void [transactions](#) ()

#### 4.6.1 Detailed Description

The file contain a function responsible for carrying out transactions between users.

#### Author

Oliwia Mlonek

#### 4.6.2 Function Documentation

##### 4.6.2.1 transactions()

```
void transactions ( )
```

Function that allows to make a transfer.