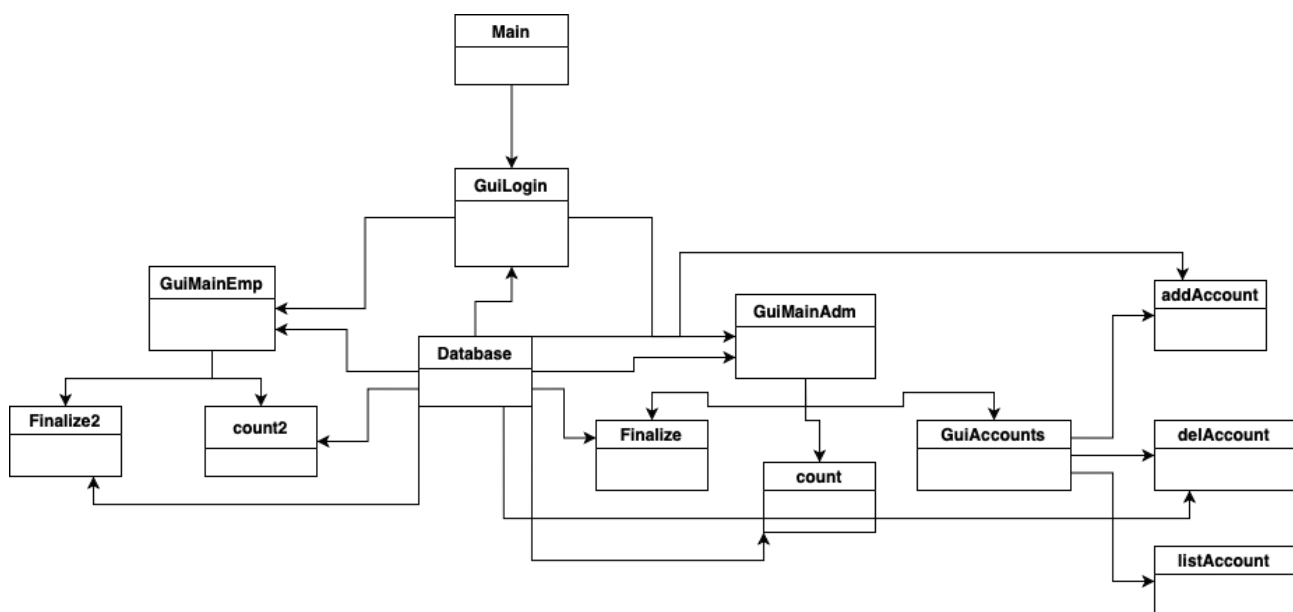


# Criterion B: Design

As mentioned in the criterion A, the behind program is to create a user-friendly Point of Sale application. In order to do that I set u a goal for it to have a good-looking easy to understand Graphic User Interface. Also, practically in every function of the application there will be needed a connection with database to either compare, delete or insert datas from it.

Relationship between classes:



Functionality of each class:

Main - Starts the program and initialises the login window

GuiLogin - Displays the input place for the login and passwords. Compares string input with database values and grants access or denies it for either the admin account or user account.

GuiMainAdm - displays the main application window for the admin account. Scans the input of the barcode and compares it with the database value. Displays the name and price of the product for given barcode value. Displays buttons, which lead to further functions of the program

Finalize - displays the window, in which user choose either cash or credit as a method of payment. It sends the information of payment to the database. It clears the product list in GuiMainAdm.

count - Displays the window, where the data of number of each bills and sum of credit card payments are put and compared with the estimated sum in the database. The difference in those values are displayed on the screen.

GuiAccounts - Displays new window, which is an exclusive feature of admin account. It is a control panel for all existing accounts.

listAccount - lists every existing account in the GuiAccounts window.

addAccount - adds account to the database

delAccount - deletes account from the database

GuiMainEmp - has the same features as GuiMainAdm but does not have access to the GuiAccounts.

Finalize2 - works the same as Finalize class, but returns to the GuiMainEmp instead of GuiMainAdm

count2 - works the same as Finalize class, but returns to the GuiMainEmp instead of GuiMainAdm

Class Diagrams and Algorithm examples:

| Main   | GuiMainAdm   |
|--|--|
| <code>void main(String[] args)</code>  | <code>JFrame mainWindow</code><br><code>TextField textField</code><br><code>Double sum</code><br><br><code>void setVisible()</code><br><code>void CloseFrame()</code><br><code>GuiMainAdm()</code><br><code>void initialize()</code><br><br><code>JDesktopPane desktopPane</code><br><code>JPanel panel</code><br><code>JButton btnNewButton_3</code><br><code>JButton btnNewButton_4</code><br><code>JButton btnEndDay</code><br><code>JPanel panel_1</code><br><code>JLabel lblNewLabel_1</code><br><code>JPanel panel_2</code><br><code>JLabel lblNewLabel</code><br><code>JTextArea textArea</code><br><code>JTextArea textArea_1</code><br><code>JLabel lblNewLabel_2</code><br><code>JLabel lblNewLabel_2_1</code><br><code>JButton btnNewButton_1</code><br><code>JButton btnNewButton</code> |
| GuiLogin   |  |
| <code>JFrame loginWindow</code><br><code>TextField txtLogin</code><br><code>PasswordField passwordField</code><br><br><code>void setVisible()</code><br><code>GuiLogin()</code><br><code>void Initialize()</code><br><br><code>JLabel lblNewLabel</code><br><code>JLabel lblNewLabel_1</code><br><code>JButton btnNewButton</code><br><code>JLabel lblZalogujSiZaby</code> |  |

| GuiMainEmp  | GuiAccounts   |
|---|---|
| JFrame mainWindow<br>JTextField textField<br>Double sum<br><br>void setVisible()<br>void CloseFrame()<br>GuiMainEmp()<br>void initialize()<br><br>JDesktopPane desktopPane<br>JPanel panel<br>JButton btnNewButton_4<br>JButton btnEndDay<br>JPanel panel_1<br>JLabel lblNewLabel_1<br>JPanel panel_2<br>JLabel lblNewLabel<br>JTextArea textArea<br>JTextArea textArea_1<br>JLabel lblNewLabel_2<br>JLabel lblNewLabel_2_1<br>JButton btnNewButton_1<br>JButton btnNewButton | JFrame mainWindow;<br>JTable table_1;<br>String[] columnNames<br>String[] gap<br>String[] row1<br>String[] row2<br>String[] row3<br>String[] row4<br>String[] row5<br><br>void setVisible()<br>void CloseFrame()<br>GuiAccounts()<br>void initialize()<br><br>JDesktopPane desktopPane<br>JPanel panel<br>JButton btnNewButton<br>JButton btnAsortyment<br>JButton btnNewButton_3<br>JPanel panel_2<br>JLabel lblNewLabel |

| addAccount   | delAccount  |             |
|--|---|-------------|
| JFrame frmAstraPosV<br>JTextField textField<br>JTextField textField_1<br>JTextField textField_2<br>JPasswordField passwordField<br><br>addAccount()<br>void setVisible()<br>void initialise()<br><br>JLabel lblNewLabel<br>JLabel lblNazwisko<br>JLabel lblLogin<br>JLabel lblHaso<br>JLabel lblTypKonta<br>JToggleButton tglnbtnNewToggleButton<br>JButton btnNewButton | JFrame frmAstraPosV<br>JTextField textField<br><br>delAccount()<br>void setVisible()<br>void initialise()<br><br>JButton btnNewButton<br>JLabel lblNewLabel |             |
|  | <th>listAccount</th>  | listAccount |
|  | String listName(int i)<br>String listSurname(int i)<br>String listLogin(int i)<br>String listType(int i)  |             |

| Database   |   | count  |
|--|---|--|
| boolean adm<br>boolean check<br>int id<br>boolean Access(String linput, String pinput)<br>void logOut()<br>String Display()<br>void addAccount(String log, String pas, String name, String sur, boolean ad)<br>void delAccount(String log)<br>String barScanner(String n)<br>Double getPrice(String n)<br>void cash(Double sum)<br>void card(Double sum)<br>Double checkCash(Double sum)<br>Double checkCard(Double sum)<br>void zeroCash()<br>void zeroCard() |   | JFrame frame<br>JTextField textField<br>JTextField textField_1<br>JTextField textField_2<br>JTextField textField_3<br>JTextField textField_4<br>JTextField textField_5<br>JTextField textField_6<br>JTextField textField_7<br>JTextField textField_8<br>JTextField textField_9<br>JTextField textField_10<br>JTextField textField_11<br>JTextField textField_12<br>JTextField textField_13<br>JTextField textField_14<br>JTextField textField_15<br>Double cash<br>Double card<br><br>void setVisible()<br>count()<br>void initialize()<br><br>JLabel lblNewLabel<br>JLabel lblNewLabel_1<br>JLabel lblNewLabel_2<br>JLabel lblNewLabel_3<br>JLabel lblNewLabel_1_1<br>JLabel lblNewLabel_2_1<br>JLabel lblNewLabel_4<br>JLabel lblNewLabel_1_2<br>JLabel lblNewLabel_2_2<br>JLabel lblNewLabel_5<br>JLabel lblNewLabel_1_3<br>JLabel lblNewLabel_2_3<br>JLabel lblNewLabel_5_1<br>JLabel lblNewLabel_5_2<br>JLabel lblNewLabel_5_3<br>JLabel lblCard<br>JLabel lblCashDifference<br>JLabel lblCardDifference<br>JLabel lblCashDifference_1<br>JLabel lblCashDifference_2<br>JButton btnNewButton<br>JButton btnBack<br><br>Double countCash() |
|  | Finalize  |  |
|  | JFrame frame<br><br>Finalize()<br>void setVisible()<br>void initialize()<br><br>JButton btnNewButton<br>JButton btnCash |  |

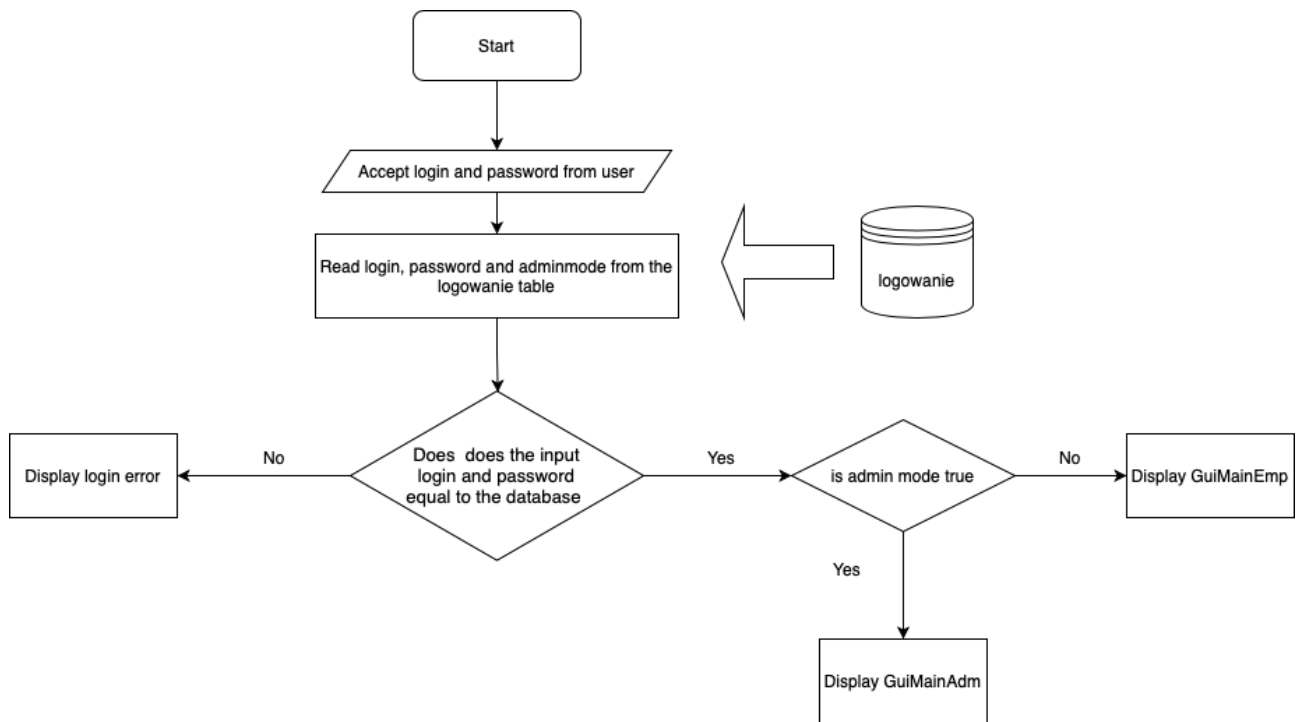


Figure 1. Login function flowchart

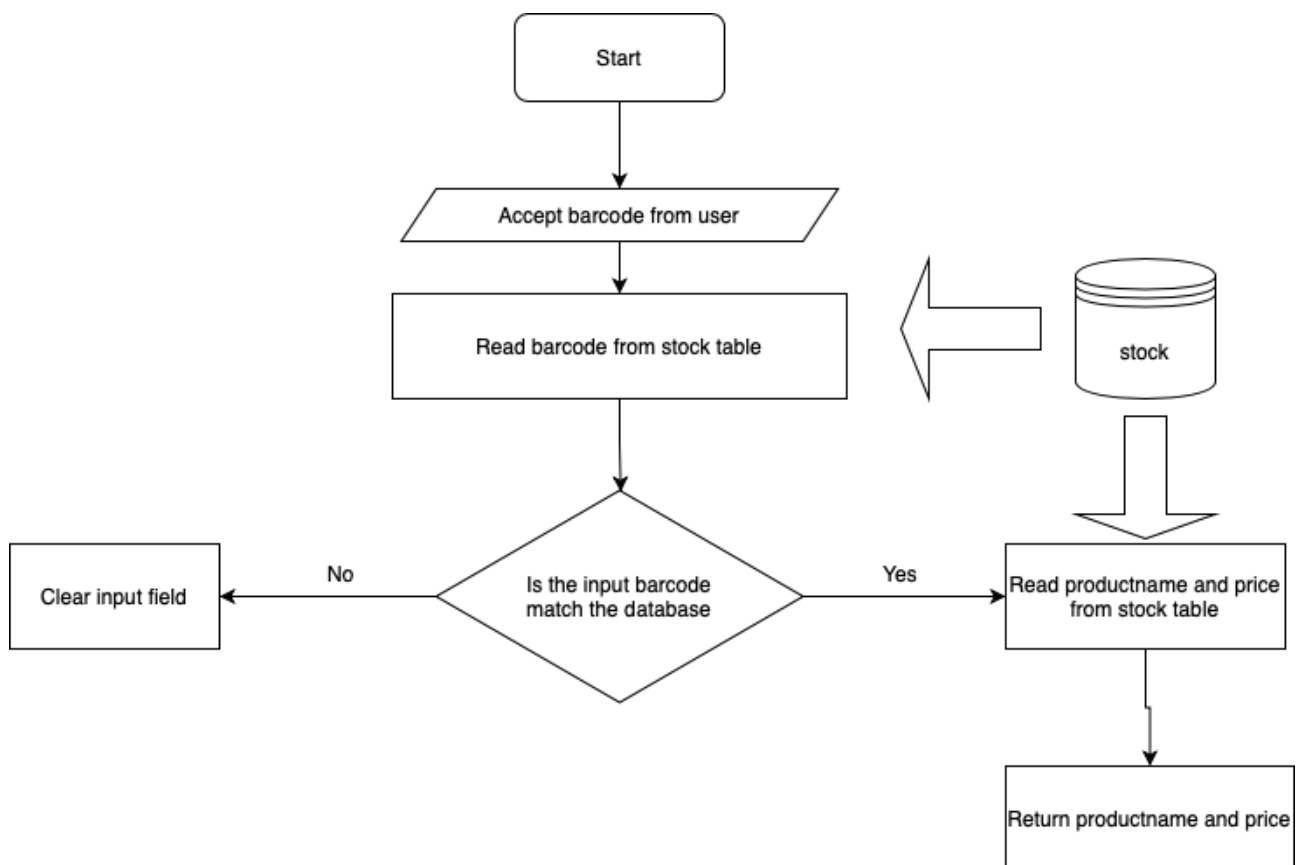


Figure 2. Barcode scanner flowchart

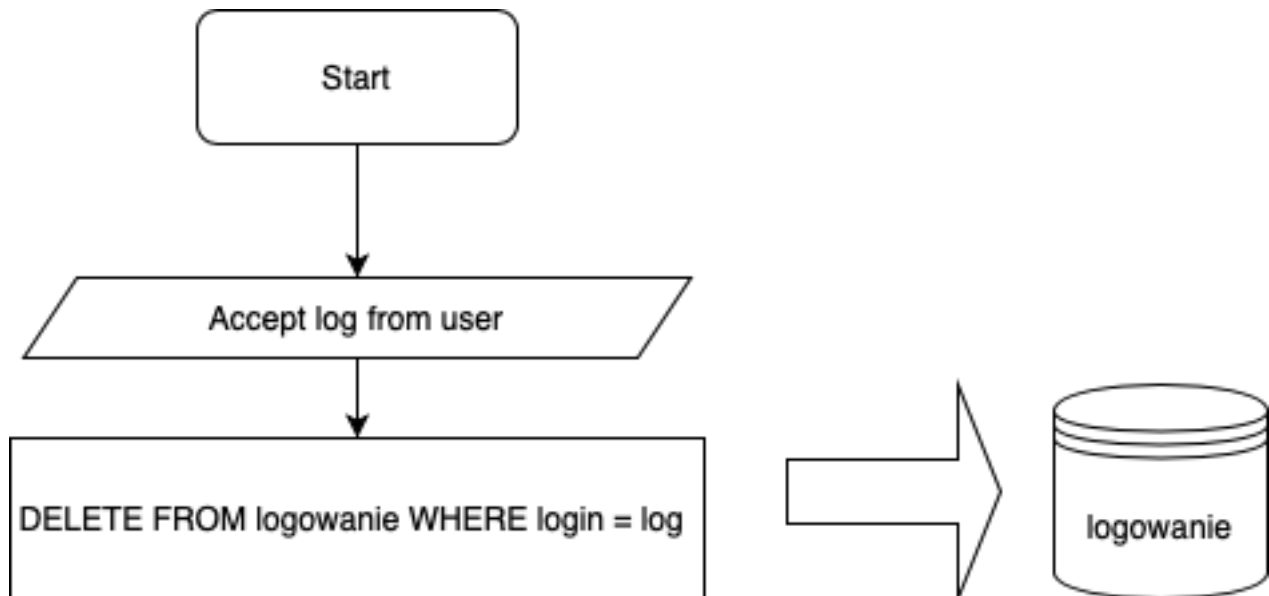


Figure 3. Delete account flowchart

## Test Plan

| Action to be tested   | Test Method   |
|---|---|
| Does the program read login and password from database and compares it with the input                             | Input wrong login and password and expect function not to let me in further into the program  |
| All of the graphical interface is readable and functions properly   | Run the program multiple times and test every window in terms of bugs or imperfections  |
| Check if the barcode scanner accepts input and compares it with the database to display the productname and price | Run the program and input the barcode that matches the one in the database and expect to display name and price in window                                 |
| Check if the Daily Profit Calculator works  | Run the program and input some barcodes to create transactions. Then end day and input the random number of bills and check if the difference is correct. |

Word Count: 482