

## **Brief Documentation of Classes and Methods**

### **'ATM' Class:**

#### **Attributes:**

- card\_number: Stores the last 4 digits of the ATM card number.
- password: Stores the 4-digit password for the ATM card.
- balance: Stores the current balance of the ATM account.

#### **Methods :**

- \_\_init\_\_(self, card\_number, password): Initializes the instance of class ATM with card number, password and a balance of 0.
- deposit(self, amount): Allows depositing a certain amount into the account of the ATM card. Checks to ensure amount is positive.
- withdraw(self, amount): This method withdraws money of a certain amount from the account. It checks first if the amount is positive and if sufficient balance is available in the account.
- check\_balance(self): This will be a method printing the current availability of the balance in the account.
- change\_password(self, old\_password, new\_password): This method updates the password of an account in case the provided password matches the real one and the new password provided is a valid 4-digit number.

#### **Functions:**

- validate\_input(prompt, validation\_func): A general function that keeps on prompting the user for an input until it meets certain predefined criteria as specified by the validation function provided. It takes two parameters—a prompt message to be displayed to the user and a validation function that checks its validity. After that, it returns the valid user input once passed.
- validate\_card\_number(card\_number): A function that validates whether a given card number is a valid 4-digit numeric string. This function will check that the card number has exactly four digits and return True if so; otherwise, it returns False.

- `validate_password(password)`: This is a function that can be used to check whether a given password is a numeric 4-digit string. It checks if the password is precisely four digits long and returns True if this condition is met; otherwise, it will return a value of False.
- `authenticate(card_number, password)`: This function is supposed to check that the card number and password provided by the user correspond to some predefined correct values. The function checks the user's input against some hard-coded correct values: card number "7548" and password "9032". It returns True in case both card number and password are correct; otherwise, it is False.

**main()** – The one responsible for the interface of the ATM. It will prompt the user for the card number and password, then authenticate the credential and, after that, display options such as Deposit, Withdraw, Check Balance, Change Password, and Exit. Then, it will execute the chosen operation by calling the proper 'ATM' methods. It keeps on running until the user chooses to exit.