THE ATM (AUTOMATIC TELLER MACHINE)

COMPUTER SCIENCE PROJECT

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ABSTRACT

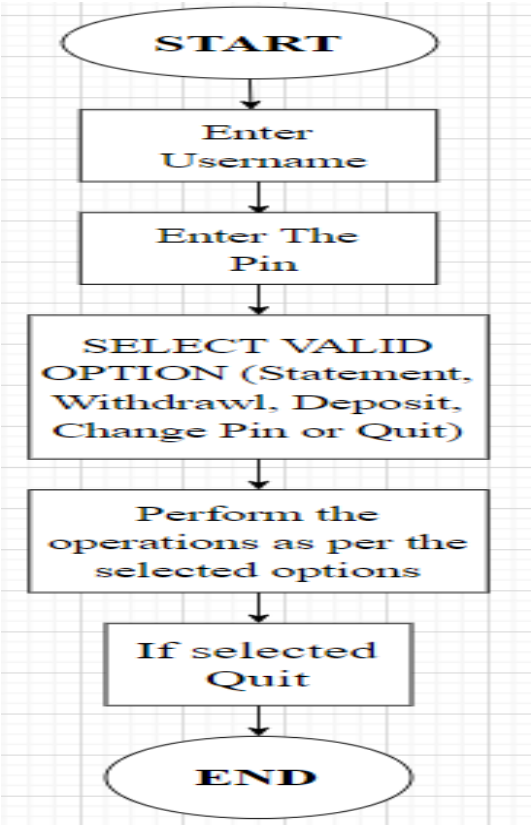
This is a python program of ATM (Automated Teller Machine). It is used to access their bank accounts in order to make cash withdrawals. Whenever the user need to make cash withdraws, they can enter their PIN number and it will display the amount to be withdrawn. The ATM also display the bank statement of the user. The user can also deposit the money and can also change the pin of the bank account.

PYTHON CONCEPTS USED

Getpass-

Getpass prompts the user for a password without echoing. The getpass module provides a secure way to handle the password prompts where programs interact with the users via the terminal.

DATA FLOW DIGRAM



SOURCE CODE

```python
import getpass

# creating a lists of users, their PINs and bank statements
users = ['sahil', 'priya', 'aditya']
pins = ['2580', '2222', '2005']
amounts = [10000, 50000, 100000]
count = 0
# while loop checks existance of the enterd username
while True:
    user = input('\nENTER USER NAME: ')
    user = user.lower()
    if user in users:
        if user == users[0]:
            n = 0
        elif user == users[1]:
            n = 1
        else:
            n = 2
        break
    else:
        print('****************')
        print('INVALID USERNAME')
        print('****************')

# comparing pin
while count < 3:
    print('******************')
    pin = str(getpass.getpass('PLEASE ENTER PIN: '))
    print('******************')
    if pin.isdigit():
        if user == 'sahil':
            if pin == pins[0]:
                break
            else:
                count += 1
                print('***********')
                print('INVALID PIN')
                print('***********')
                print()

        if user == 'priya':
            if pin == pins[1]:
                break
            else:
                count += 1
                print('-----------')
                print('***********')
                print('INVALID PIN')
                print('***********')
                print('-----------')
                print()

        if user == 'aditya':
            if pin == pins[2]:
                break
            else:
                count += 1
                print('-----------')
                print('***********')
                print('INVALID PIN')
                print('***********')
                print('-----------')
                print()
```

```
        else:
            print('-------------------------')
            print('*************************')
            print('PIN CONSISTS OF 4 DIGITS')
            print('*************************')
            print('-------------------------')
            count += 1

    if count == 3:
        print('-----------------------------------')
        print('***********************************')
        print('3 UNSUCCESFUL PIN ATTEMPTS, EXITING')
        print('!!!!!YOUR CARD HAS BEEN LOCKED!!!!!')
        print('***********************************')
        print('-----------------------------------')
        exit()

    print('--------------------------')
    print('**************************')
    print('LOGIN SUCCESFUL, CONTINUE')
    print('**************************')
    print('--------------------------')
    print()
    print('---------------------------')
    print('***************************')
    print(str.capitalize(users[n]), 'welcome to ATM')
    print('***************************')
    print('-----------ATM SYSTEM-----------')
```

```
while True:
    print('------------------------------')
    print('******************************')
    response = input('SELECT FROM FOLLOWING OPTIONS: \nStatement__(S) \nWithdrawl___(W) \nDeposit__(D)  \nChange PIN_(P)  \nQuit_____(Q) \n: ').lower()
    print('******************************')
    print('------------------------------')
    valid_responses = ['s', 'w', 'd', 'p', 'q']
    response = response.lower()
    if response == 's':
        print('-------------------------------------------')
        print('*******************************************')
        print(str.capitalize(users[n]), 'YOU HAVE ', amounts[n],'RUPEES ON YOUR ACCOUNT.')
        print('*******************************************')
        print('-------------------------------------------')

    elif response == 'w':
        print('-------------------------------------------')
        print('*******************************************')
        cash_out = int(input('ENTER AMOUNT YOU WOULD LIKE TO WITHDRAW: '))
        print('*******************************************')
        print('-------------------------------------------')
        if cash_out%10 != 0:
            print('-----------------------------------------------------')
            print('*****************************************************')
            print('AMOUNT YOU WANT TO WITHDRAW MUST TO MATCH 10 RUPEES NOTES')
            print('*****************************************************')
            print('-----------------------------------------------------')
        elif cash_out > amounts[n]:
            print('----------------------------')
            print('****************************')
            print('YOU HAVE INSUFFICIENT BALANCE')
            print('****************************')
            print('----------------------------')
```

```
        else:
            amounts[n] = amounts[n] - cash_out
            print('---------------------------------')
            print('*********************************')
            print('YOUR NEW BALANCE IS: ', amounts[n], 'RUPEES')
            print('*********************************')
            print('---------------------------------')

    elif response == 'd':
        print()
        print('-----------------------------------------')
        print('*****************************************')
        cash_in = int(input('ENTER AMOUNT YOU WANT TO DEPOSIT: '))
        print('*****************************************')
        print('-----------------------------------------')
        print()
        if cash_in%10 != 0:
            print('-------------------------------------------------')
            print('*************************************************')
            print('AMOUNT YOU WANT TO DEPOSIT MUST TO MATCH 10 RUPEES NOTES')
            print('*************************************************')
            print('-------------------------------------------------')
        else:
            amounts[n] = amounts[n] + cash_in
            print('---------------------------------------')
            print('***************************************')
            print('YOUR NEW BALANCE IS: ', amounts[n], 'RUPEES')
            print('***************************************')
            print('---------------------------------------')
```

```
    elif response == 'p':
        print('-----------------------------')
        print('*****************************')
        new_pin = str(getpass.getpass('ENTER A NEW PIN: '))
        print('*****************************')
        print('-----------------------------')
        if new_pin.isdigit() and new_pin != pins[n] and len(new_pin) == 4:
            print('------------------')
            print('******************')
            new_ppin = str(getpass.getpass('CONFIRM NEW PIN: '))
            print('******************')
            print('------------------')
            if new_ppin != new_pin:
                print('------------')
                print('************')
                print('PIN MISMATCH')
                print('************')
                print('------------')
            else:
                pins[n] = new_pin
                print('NEW PIN SAVED')
        else:
            print('-----------------------------------')
            print('***********************************')
            print('   NEW PIN MUST CONSIST OF 4 DIGITS \nAND MUST BE DIFFERENT TO PREVIOUS PIN')
            print('***********************************')
            print('-----------------------------------')
    elif response == 'q':
        exit()
    else:
        print('------------------')
        print('******************')
        print('RESPONSE NOT VALID')
        print('******************')
        print('------------------')
```

OUTPUT

```
ENTER USER NAME: sahil
******************
PLEASE ENTER PIN:
******************
**********
INVALID PIN
**********

******************
PLEASE ENTER PIN:
******************
------------------------
************************
LOGIN SUCCESFUL, CONTINUE
************************
------------------------


-------------------------
*************************
Sahil welcome to ATM
*************************
----------ATM SYSTEM-----------
------------------------------
*******************************
SELECT FROM FOLLOWING OPTIONS:
Statement__(S)
Withdrawl___(W)
Deposit__(D)
Change PIN_(P)
Quit_____(Q)
: s
*******************************
-------------------------------
-------------------------------------------
*******************************************
Sahil YOU HAVE  10000 RUPEES ON YOUR ACCOUNT.
*******************************************
-------------------------------------------
------------------------------
******************************
```

```
SELECT FROM FOLLOWING OPTIONS:
Statement__(S)
Withdrawl___(W)
Deposit__(D)
Change PIN_(P)
Quit_____(Q)
: w
*****************************
-----------------------------
-------------------------------------------
*******************************************
ENTER AMOUNT YOU WOULD LIKE TO WITHDRAW: 2600
*******************************************
-------------------------------------------
-----------------------------------
***********************************
YOUR NEW BALANCE IS:  7400 RUPEES
***********************************
-----------------------------------
-----------------------------
*****************************
SELECT FROM FOLLOWING OPTIONS:
Statement__(S)
Withdrawl___(W)
Deposit__(D)
Change PIN_(P)
Quit_____(Q)
: d
*****************************
-----------------------------


-------------------------------------------
*******************************************
ENTER AMOUNT YOU WANT TO DEPOSIT: 5400
*******************************************
-------------------------------------------


---------------------------------------
***************************************
YOUR NEW BALANCE IS:  12800 RUPEES
***************************************
---------------------------------------
-----------------------------
*****************************
```

NEW THINGS LEARNT

- This project gave me an opportunity to learn about the amount of work that goes in developing apps and websites from python.
- I got to learn about the Getpass module from python's wide range of modules while doing the project.
- I also got to learn about draw.io while making the data flow digram in the project.

LIMITATIONS OF THIS PROJECT

The limitations of this project is that you cannot actually change the pin of your bank account. If you change the pin once then kill the output or end the program and run it again, the pin will remain the same as assigned in the code.

REFERENCE

- Computer Science with Python Class XI (Sumita Arora)
- https://www.geeksforgeeks.org/
- https://www.draw.io/