

THE ATM (AUTOMATIC TELLER MACHINE)

COMPUTER SCIENCE PROJECT

(2021-2022)

DAV INTERNATIONAL SCHOOL, KHARGHAR



NAME : SAHIL VINOD BHATT

CLASS : XI B

ROLL NO : 19

ABSTRACT

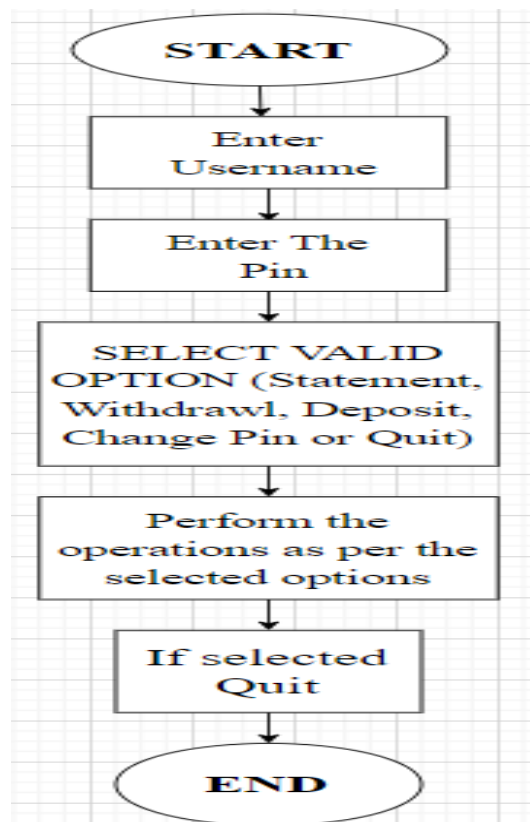
This is a python program of ATM (Automated Teller Machine). It is used to access their bank accounts in order to make cash withdrawals. Whenever the user need to make cash withdraws, they can enter their PIN number and it will display the amount to be withdrawn. The ATM also display the bank statement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

```
1  import getpass
2  |
3  # creating a lists of users, their PINs and bank statements
4  users = ['sahil', 'priya', 'aditya']
5  pins = ['2580', '2222', '2005']
6  amounts = [10000, 50000, 100000]
7  count = 0
8  # while loop checks existance of the entered username
9  while True:
10     user = input('\nEnter USER NAME: ')
11     user = user.lower()
12     if user in users:
13         if user == users[0]:
14             n = 0
15         elif user == users[1]:
16             n = 1
17         else:
18             n = 2
19         break
20     else:
21         print('*****')
22         print('INVALID USERNAME')
23         print('*****')
24
25 # comparing pin
26 while count < 3:
27     print('*****')
28     pin = str(getpass.getpass('PLEASE ENTER PIN: '))
29     print('*****')
30     if pin.isdigit():
31         if user == 'sahil':
32             if pin == pins[0]:
33                 break
```

```
34         else:
35             count += 1
36             print('*****')
37             print('INVALID PIN')
38             print('*****')
39             print()
40
41         if user == 'priya':
42             if pin == pins[1]:
43                 break
44             else:
45                 count += 1
46                 print('-----')
47                 print('*****')
48                 print('INVALID PIN')
49                 print('*****')
50                 print('-----')
51                 print()
52
53         if user == 'aditya':
54             if pin == pins[2]:
55                 break
56             else:
57                 count += 1
58                 print('-----')
59                 print('*****')
60                 print('INVALID PIN')
61                 print('*****')
62                 print('-----')
63                 print()
```

```

64     else:
65         print('-----')
66         print('*****')
67         print('PIN CONSISTS OF 4 DIGITS')
68         print('*****')
69         print('-----')
70         count += 1
71
72 if count == 3:
73     print('-----')
74     print('*****')
75     print('3 UNSUCCESSFUL PIN ATTEMPTS, EXITING')
76     print('!!!!YOUR CARD HAS BEEN LOCKED!!!!')
77     print('*****')
78     print('-----')
79     exit()
80
81 print('-----')
82 print('*****')
83 print('LOGIN SUCCESSFUL, CONTINUE')
84 print('*****')
85 print('-----')
86 print()
87 print('-----')
88 print('*****')
89 print(str.capitalize(users[n]), 'welcome to ATM')
90 print('*****')
91 print('-----ATM SYSTEM-----')

```

```

92 while True:
93     print('-----')
94     print('*****')
95     response = input('SELECT FROM FOLLOWING OPTIONS: \nStatement__(S) \nWithdrawl__(W) \nDeposit__(D) \nChange PIN_(P) \nQuit_____(Q) \n: ').lower()
96     print('*****')
97     print('-----')
98     valid_responses = ['s', 'w', 'd', 'p', 'q']
99     response = response.lower()
100     if response == 's':
101         print('-----')
102         print('*****')
103         print(str.capitalize(users[n]), 'YOU HAVE ', amounts[n], 'RUPEES ON YOUR ACCOUNT.')
104         print('*****')
105         print('-----')
106
107     elif response == 'w':
108         print('-----')
109         print('*****')
110         cash_out = int(input('ENTER AMOUNT YOU WOULD LIKE TO WITHDRAW: '))
111         print('*****')
112         print('-----')
113         if cash_out % 10 != 0:
114             print('-----')
115             print('*****')
116             print('AMOUNT YOU WANT TO WITHDRAW MUST TO MATCH 10 RUPEES NOTES')
117             print('*****')
118             print('-----')
119         elif cash_out > amounts[n]:
120             print('-----')
121             print('*****')
122             print('YOU HAVE INSUFFICIENT BALANCE')
123             print('*****')
124             print('-----')

```

```

125     else:
126         amounts[n] = amounts[n] - cash_out
127         print('-----')
128         print('*****')
129         print('YOUR NEW BALANCE IS: ', amounts[n], 'RUPEES')
130         print('*****')
131         print('-----')
132
133     elif response == 'd':
134         print()
135         print('-----')
136         print('*****')
137         cash_in = int(input('ENTER AMOUNT YOU WANT TO DEPOSIT: '))
138         print('*****')
139         print('-----')
140         print()
141         if cash_in%10 != 0:
142             print('-----')
143             print('*****')
144             print('AMOUNT YOU WANT TO DEPOSIT MUST TO MATCH 10 RUPEES NOTES')
145             print('*****')
146             print('-----')
147         else:
148             amounts[n] = amounts[n] + cash_in
149             print('-----')
150             print('*****')
151             print('YOUR NEW BALANCE IS: ', amounts[n], 'RUPEES')
152             print('*****')
153             print('-----')

```

```

154     elif response == 'p':
155         print('-----')
156         print('*****')
157         new_pin = str(getpass.getpass('ENTER A NEW PIN: '))
158         print('*****')
159         print('-----')
160         if new_pin.isdigit() and new_pin != pins[n] and len(new_pin) == 4:
161             print('-----')
162             print('*****')
163             new_ppin = str(getpass.getpass('CONFIRM NEW PIN: '))
164             print('*****')
165             print('-----')
166             if new_ppin != new_pin:
167                 print('-----')
168                 print('*****')
169                 print('PIN MISMATCH')
170                 print('*****')
171                 print('-----')
172             else:
173                 pins[n] = new_pin
174                 print('NEW PIN SAVED')
175         else:
176             print('-----')
177             print('*****')
178             print('NEW PIN MUST CONSIST OF 4 DIGITS \nAND MUST BE DIFFERENT TO PREVIOUS PIN')
179             print('*****')
180             print('-----')
181     elif response == 'q':
182         exit()
183     else:
184         print('-----')
185         print('*****')
186         print('RESPONSE NOT VALID')
187         print('*****')
188         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

```

SELECT FROM FOLLOWING OPTIONS:
Statement__(S)
Withdrawl__(W)
Deposit__(D)
Change PIN_(P)
Quit_____(Q)
: p
*****
-----
-----
*****
ENTER A NEW PIN:
*****
-----
-----
*****
CONFIRM NEW PIN:
*****
-----
NEW PIN SAVED
-----
*****
SELECT FROM FOLLOWING OPTIONS:
Statement__(S)
Withdrawl__(W)
Deposit__(D)
Change PIN_(P)
Quit_____(Q)
: q
*****
-----

```

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/>