PROJECT REPORT

On

"ATM Management System"

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Mentor

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INDEX

TOPICS	PAGE NO
CERTIFICATE	**3**
INTRODUCTION	**4**
TOOLS/PLATFORMS	**5**
ALGORITHM	**6**
FLOWCHART	**7**
SOURCE CODE	**8-10**
RESULT(SCREENSHOTS)	**11-15**
CONCLUSION	**16**
REFERENCES	**16**

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DEPARTMENT OF ELECTRICAL ENGINEERING

SESSION 2021-2022

CERTIFICATE

This is certify that the Project titled "ATM management system" is a Bonafide work of Jayant Dhandale carried out in the Practice School-II Assessment:Hands on Training on Programming, Data structure and algorithm through Python.

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Introduction

The ATM Program includes Python written computer programming language, In this Article of `ATM Software` Python Project a simple console based system which is very easy to use. The system security is that the card pin is automatically changes with time as passwords not same for every login,syntax of pin asumption can only judge by owner.

ATM Program In Python Using Function, it contains various features which include Banking sevices ,Account Statement, Withdrawing, Depositing amount and changing the pin.

Computer-based program that makes managing a bank account's funds simple. It enables users to check account balances, make cash withdrawals or deposits, print a statement of account details or transactions.

Python Modules:

1) **Datetime module:** The datetime module supplies classes for manipulating dates and times. While date and time arithmetic is supported, the focus of the implementation is on efficient attribute extraction for output formatting and manipulation. See also Module calendar. General calendar related functions.

2) **Pytz** brings the Olson tz database into Python and thus supports almost all time zones. This module serves the date-time conversion functionalities and helps user serving international client's base. It enables time-zone calculations in our Python applications and also allows us to create timezone aware datetime instances.

3) Conditional Statement in Python perform different computations or actions depending on whether a specific Boolean constraint evaluates to true or false. Conditional statements are handled by IF statements in Python which is used selection of menu.

4) **Python def keyword** is used to define a function, it is placed before a function name that is provided by the user to create a user-defined function. In python, a function is a logical unit of code containing a sequence of statements indented under a name given using the "**def**" keyword. In project using def we are able to quick return and quit to main program.

Tools/Platforms

- **PyCharm Community Edition 2022.2.1**

  PyCharm is a dedicated Python Integrated Development Environment (IDE) providing a wide range of essential tools for Python developers, tightly integrated to create a convenient environment for productive Python, web, and data science development.

- **Online GDB**

  It is an online compiler and debugger tool for the most popular programming C, C++, **Python**, Java, PHP, Ruby, Perl, etc. It is a very powerful compiler which is superfast hence loads and gives result instantly.

- **PyCharm supports the following versions of Python**
  - **Python 2:** Version 2.7
  - **Python 3:** From the version 3.6 up to the version 3.11

- **Supported platforms**

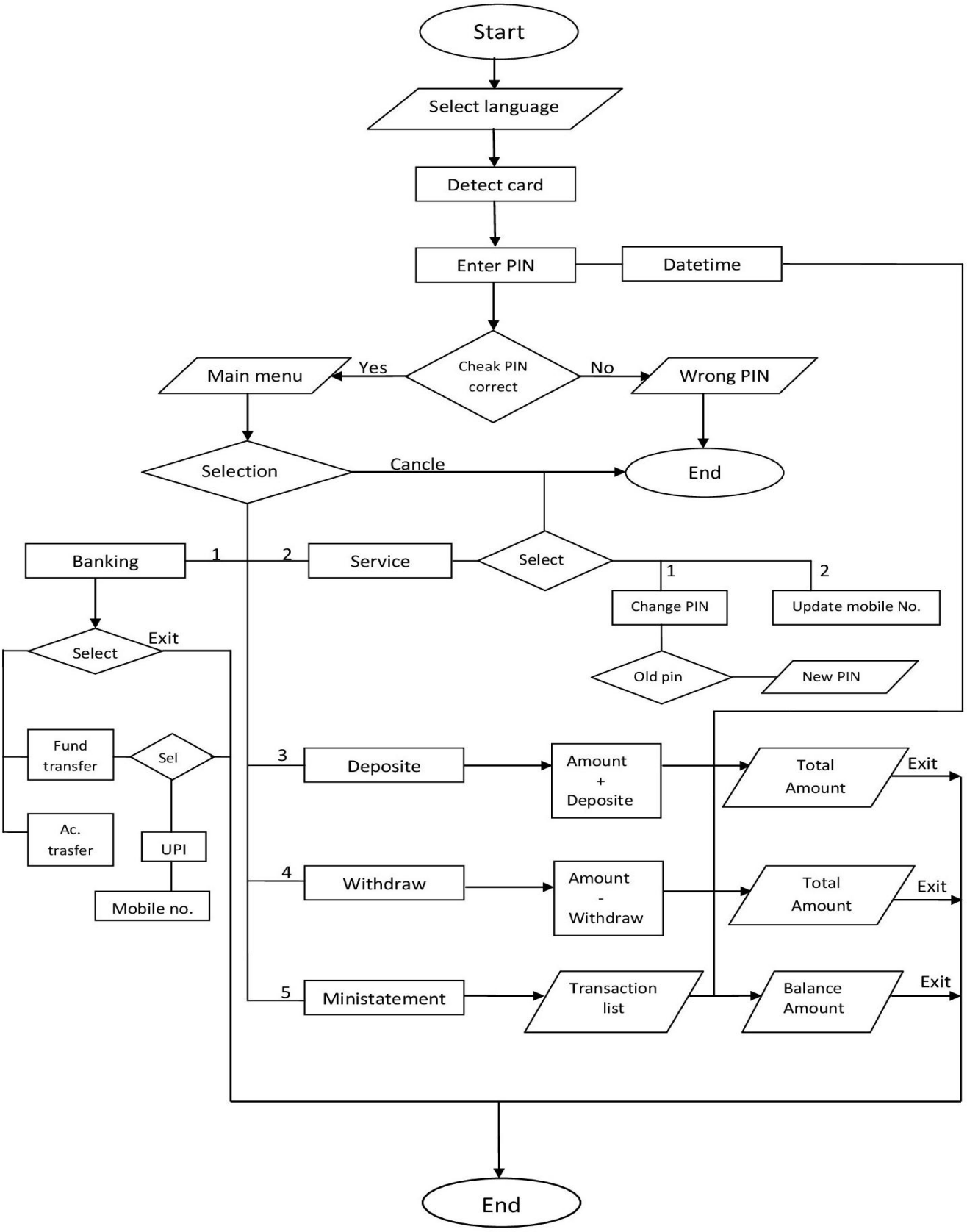
  PyCharm is a cross-platform IDE that works on Windows, macOS, and Linux. Check the system requirements:

Requirement	Minimun	Recommended
RAM	4 GB of free RAM	8 GB of total system RAM
CPU	Any modern CPU	Multi-core CPU.
Disk Space	2.5 GB and another 1 GB for caches	SSD drive with at least 5 GB of free space
Moniter Resolution	1024×768	1920×1080
Operating System	Microsoft Windows 8 or later	Latest 64-bit version of Windows

ALGORITHM:

- Step1: Start
- Step2:Choice Language
- Step3:Insert Card
- Step4:Enter assinged PIN
- Step6:Cheak wrong PIN
- Step5:Select option in main menu
- Step6:Banking with sub menu selection of fund transfer and Ac. transfer
- Step7:Services with sub menu selection of Change PIN and Update imformation
- Step8:Cheak old PIN set new PIN change Mobile number
- Step9:Deposite money in current amount with transaction time
- Step10:Withdraw money from current balance with transaction time
- Step11:Ministatement of saved with transaction time and current amount
- Step10: Stop

FLOWCHART


Start
Select language
Detect card
Enter PIN
Datetime
Cheak PIN correct
Yes
No
Main menu
Wrong PIN
Selection
Cancle
End
Banking
1
2
Service
Select
1
2
Change PIN
Update mobile No.
Old pin
New PIN
Select
Exit
Fund transfer
Sel
Ac. trasfer
UPI
Mobile no.
3
Deposite
Amount + Deposite
Total Amount
Exit
4
Withdraw
Amount - Withdraw
Total Amount
Exit
5
Ministatement
Transaction list
Balance Amount
Exit
End

PROGRAME CODE:

```
from datetime import datetime

import pytz
UTC = pytz.utc
IST = pytz.timezone('Asia/Kolkata')
now = datetime.now()
pas = now.strftime("%M")
password = [int (x) for x in str (pas)] #store minutes in arry


def main():
    holder_name ='Jayant Sheshrao Dhandale'
    card_data='87435484254'
    prd = '98'                          #predefine passward
    pas = now.strftime("%M")

    pasd = [int (x) for x in str (pas)] #store min in arry ,we can
store Date time for make more random

    pd1 = str(sum(pasd))                #sum of two digit minutes

    dec = str(pd1).zfill(2)             #always number should be
in two digit

    strp=prd+dec                        #combine predefine and
minutes to form new enter pin

    input("============= Welcome to City Bank =============")
    time = now.strftime("%D , %H:%M")
        print(time)
    input("Choice language\n1.English\n2.Hindi \n")
    input("           \nInsert your card")


    c_pass=str(input("Enter your PIN\n"))
    print("============== Welcome to City Bank
====================")

if c_pass==strp:
```

```
        print('''
 |          '''             ,holder_name,'''                  |
 |                                                           |
 |                                                           |
 |                                                           |
 |       1.Banking              4.Withdraw                   |
 |       2.Services             5.Ministatement              |
 |       3.Deposite             6.Exit                       |
 |                                                           |
         ''')

print("=========================================================")
        amount=10000
        option=int(input("Select your option: "))
        if option==1:#main menu
            print('''
            1.Fund transfer
            2.Ac transfer
            3.Exit
            ''')
           opt1=int(input("Select your option: "))
           if opt1==1:
        print(''' 1.UPI
                2.Mobile No.
                3.Cancle   ''')
                opt11=int(input("Select your option: ")
                if opt11==1:
                    input("Enter UPI ID ")
                elif opt11==2:
                    input("Mobile No.")
                elif opt11==3:
                    main()
           elif opt1==2:
                input("Account Number:")
                input("IFSC :")
                main()
```

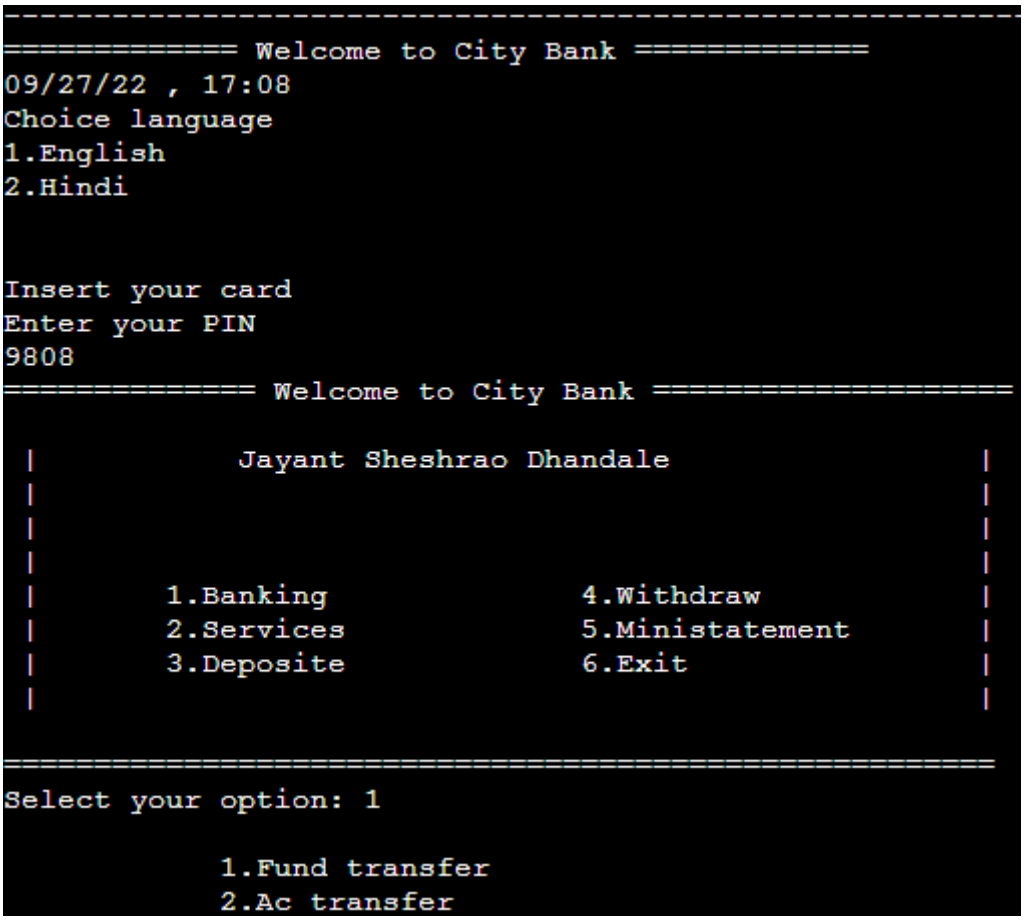
```
    elif opt1==3:
        print("Session over")
        main()
elif option==2:#main menu
    print('''
    1.Change PIN
    2.Update information
    3.Exit   ''')
    opt2=int(input("Select your option: "
    if opt2==1:
    oldp=input("Enter old PIN\n")
        if oldp!=strp:
            print("Old PIN not match")
            return(0)
        elif oldp==strp:
            input("Enter new PIN\n")
            input("Enter OTP\n")
            print("Your card PIN has been changed")
            main()
    elif opt2==2:
       input("New mobile number ")
       input("Change ID")
                    main()
elif option==3:    #main menu
    dep=int(input("Enter the amount\n"))
    ad=amount+dep
    s1 = now.strftime("%m/%d/%Y  %H:%M:%S")
    print("\nTransaction sucessful ",s1," \nTotal
                          amount:",ad)
elif option==4: #main menu
    withd=int(input("Enter the amount\n"))
    awid=amount-withd
```

```
        s2 = now.strftime("%m/%d/%Y %H:%M:%S")

        print("\nTransaction successful \nTotal amount:",awid)

        main()

    elif option==5: #main menu
    print("=================== Transactions list
                  ====================\n")
                s1 = now.strftime("%m/%d/%Y  %H:%M:%S")
                s2 = now.strftime("%m/%d/%Y  %H:%M:%S")
                print("Date   Time   Transactions ID  Type  Amount")
                print(s1,"     9836253235632     Debit   10000")
                print(s2,"     9654572155146     Credit ",amount)
                print("Do you want to print statement")

                input('''
                 1.Yes
                 2.No

                 ''')

                print("Total balance amount:",amount)

    print("=========================================================")
                main()

            elif option==6: #main menu

                print("Cancle")
                exit()


        else:

            print("Entered Wrong PIN")
            main()

    main()
```

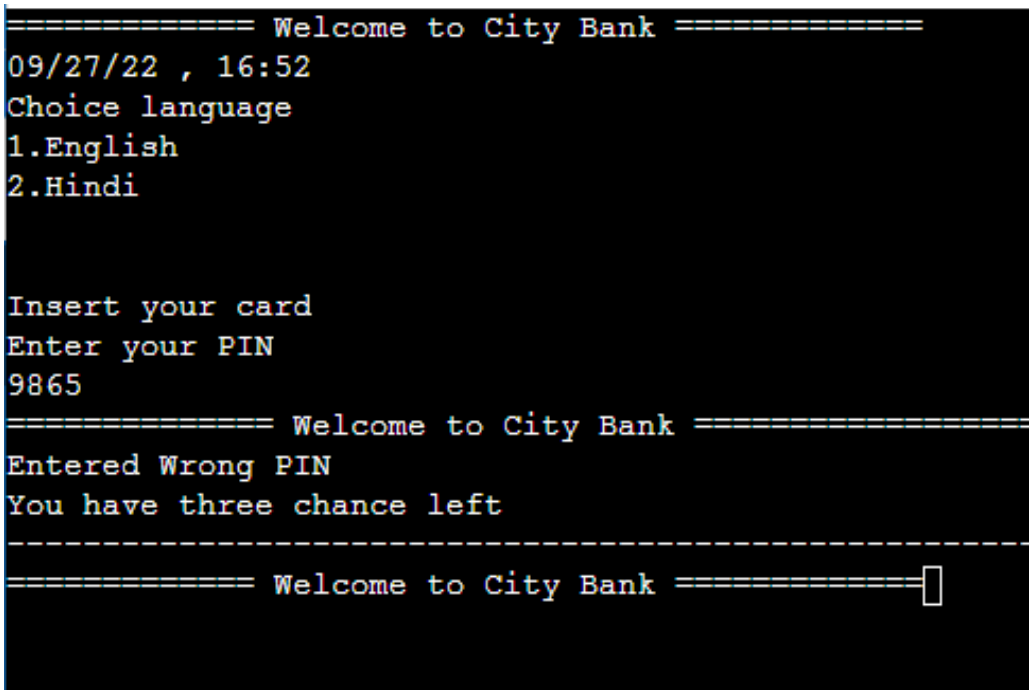
RESULT : All possible outputs verified by code execution without any error.

SCREENSHOT

Insert card and cheak for correct PIN and **main menu**



Wrong password case



Banking option

```
============== Welcome to City Bank ====================

 |            Jayant Sheshrao Dhandale                  |
 |                                                      |
 |                                                      |
 |                                                      |
 |       1.Banking               4.Withdraw             |
 |       2.Services              5.Ministatement        |
 |       3.Deposite              6.Exit                 |
 |                                                      |

=========================================================
Select your option: 1

            1.Fund transfer
            2.Ac transfer
            3.Exit

Select your option: 1

                1.UPI
                2.Mobile No.
                3.Cancle

Select your option: 2
Mobile No.9865427523
```

Services change pin

```
============== Welcome to City Bank ====================

 |            Jayant Sheshrao Dhandale                  |
 |                                                      |
 |                                                      |
 |                                                      |
 |       1.Banking               4.Withdraw             |
 |       2.Services              5.Ministatement        |
 |       3.Deposite              6.Exit                 |
 |                                                      |

=========================================================
Select your option: 2

            1.Change PIN
            2.Generate PIN
            3.Update information
            4.Exit

Select your option: 1
Enter old PIN
9807
Enter new PIN
9812
Enter OTP
3655
Your card PIN has been changed
```

```
============= Welcome to City Bank ==================

 |            Jayant Sheshrao Dhandale                |
 |                                                    |
 |                                                    |
 |                                                    |
 |        1.Banking              4.Withdraw           |
 |        2.Services             5.Ministatement      |
 |        3.Deposite             6.Exit               |
 |                                                    |

======================================================
Select your option: 2

            1.Change PIN
            2.Generate PIN
            3.Update information
            4.Exit

Select your option: 3
New mobile number 9885656572
```

Deposite where previous store amount 10000

```
============= Welcome to City Bank ==================

 |            Jayant Sheshrao Dhandale                |
 |                                                    |
 |                                                    |
 |                                                    |
 |        1.Banking              4.Withdraw           |
 |        2.Services             5.Ministatement      |
 |        3.Deposite             6.Exit               |
 |                                                    |

======================================================
Select your option: 3
Enter the amount
365

Transaction sucessful  09/27/2022, 17:24:48
Total amount: 10365
```

Withdraw Money with transaction details

```
9805
============= Welcome to City Bank ==================

 |            Jayant Sheshrao Dhandale                |
 |                                                    |
 |                                                    |
 |                                                    |
 |        1.Banking              4.Withdraw           |
 |        2.Services             5.Ministatement      |
 |        3.Deposite             6.Exit               |
 |                                                    |

=====================================================
Select your option: 4
Enter the amount
5036

Transaction sucessful  09/27/2022, 17:41:45
Total amount: 4964
```

Ministatement

```
============= Welcome to City Bank ==================

 |            Jayant Sheshrao Dhandale                |
 |                                                    |
 |                                                    |
 |                                                    |
 |        1.Banking              4.Withdraw           |
 |        2.Services             5.Ministatement      |
 |        3.Deposite             6.Exit               |
 |                                                    |

=====================================================
Select your option: 5
================== Transactions list ================

Date          Time       Transactions ID    Type    Amount
09/27/2022  17:45:10      9836253235632     Debit   10000
09/27/2022  17:45:10      9654572155146     Credit  10000
Do you want to print statement

             1.Yes
             2.No

             1
Total balance amount: 10000
```

CONCLUSION: "ATM management system" sucessfully implemented by python programming Modules and Functions.

Reference

- **For Python Modues:** https://www.programiz.com/python-programming/time
- **For Pytz:** https://www.geeksforgeeks.org/python-pytz/
- **For Function:** https://www.programiz.com/python-programming/function
- **For Variable:** https://www.tutorialspoint.com/python/python_variable_types.htm

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