COMPUTER SCIENCE HOLIDAY PROJECT~

MENU DRIVEN PROGRAM

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INTRODUCTION

This project is based on ATM management.

Today one cannot afford to rely on human beings against merciless competition where it is not wise to say "to err is human". It is no longer valid and out-dated to rationalize mistakes. Software has been an ascent in various organisations. Many software products working are now in markets, which have helped in making organizations work efficiently. Data management initially had to maintain a lot of paperwork, but now software production has made their work faster and easier. this software has to be loaded on the Now. computer and work can be done.

This prevents a lot of time and saves a lot of money. The work becomes fully automated and any information regarding the organization can be obtained by the click a button.



WHAT IS PYTHON?

Python is an interpreted, object-oriented, high-level programming language. It's built in data structures, combined with dynamic typing and binding; makes it attractive for Application Development, as well as for use as a scripting language to connect existing components together.

WHY PYTHON?

Python is simple

It's easy to learn syntax emphasizes readability and reduces the cost of program maintenance. Python supports modules and packages, which encourages program modularity and code reuse. The Python interpreter and the extensive standard library are available in source or binary form without charge for all major platforms, and can be freely distributed.

PYTHON: A PROGRAMMER'S COMPANION

Often, programmers fall in love with Python as of the increased productivity it provides. There's no compilation step and the edit-test-debug cycle is fast. Debugging Python programs is easy: a bug will never cause a segmentation fault. Instead, when the interpreter discovers an error, it raises an exception. When the program doesn't catch the exception, the interpreter prints a stack trace. A source level debugger allows inspection of local and global variables, evaluation of arbitrary expressions, setting breakpoints, stepping through the code a line at a time, and so on. The debugger is written in Python itself, testifying to Python's introspective power.

NOTE- The quickest way to debug a program is to add a few print statements to the source: the fast edit-test-debug cycle makes this simple approach effective.





WHAT IS MYSQL?

MySQL is a relational database management system (RDBMS) that is based on structured query language (SQL). It has the set of software tools used to actually implement, manage, and query a database.

WHY MYSQL?

MySQL is integral to many of the most popular software stacks for building and maintaining everything from customer-facing web applications to powerful, data-driven B2B services (Business to Business services). Its open-source nature, stability, and rich feature set, , have meant that internet-critical organizations such as Facebook, Twitter, Wikipedia, and YouTube all employ MySQL backends

Though MySQL's relational nature and the ensuing rigid storage structures might seem restrictive, the tabular paradigm is perhaps the most intuitive, and ultimately allows for greater usability.

In fact, MySQL makes many concessions to supporting the widest possible variety of data structures, from the standard but rich logical, numeric, alphanumeric, date, and time types, to more advanced JSON or geospatial data. Beyond mere data types and an expansive built-in feature set, the MySQL ecosystem also includes a variety of tools, easing everything from server management to reporting and data analysis.

MYSQL: A PROGRAMMER'S COMPANION

Regardless of the RDBMS's overarching architecture, users can invariably find a MySQL feature allowing them to model and codify data how they wish. MySQL remains one of the most straightforward database technologies to learn and use.

Any individual or enterprise may freely use, modify, publish, and expand on Oracle's open-source MySQL code base.



hgš

hg\$ nysal

Welcome to the MySQL monitor. Commands and with ; or 'q.

Your MySQL connection id is 8 Server version: 8.0.17 MySQL Community Server - DPL

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Type 'help:' or 'th' for help. Type 'to' to clear the current input statement.

mysals Will test!

Reading table information for completion of table and column names You can turn off this feature to get a quicker startup with -A

Detabase changed mysgl> SHOW tables;

Tables_in_test

Source Code

```
import mysql.connector
# GLOBAL VARIABLES DECLARATION
myConnnection =""
cursor=""
userName=""
 password =""
cid=""
#MODULE TO CHECK MYSQL CONNECTIVITY
def MYSQLconnectionCheck ():
          global myConnection
          global userName
          global password
          userName = input("\n ENTER MYSQL SERVER'S USERNAME : ")
           password = input("\n ENTER MYSQL SERVER'S PASSWORD : ")
           my Connection = my sql. connector. connect (host = "local host", user = user Name, passwd = password", user = user Name, passwd = password", user = user Name, passwd = password = passwo
auth_plugin='mysql_native_password')
           if myConnection:
```

```
print("\n CONGRATULATIONS! YOUR MYSQL CONNECTION HAS BEEN ESTABLISHED!")
             cursor=myConnection.cursor()
             cursor.execute("CREATE DATABASE |F NOT EXISTS ATM")
             cursor.execute("COMMIT")
            cursor.close()
            return myConnection
      else:
            print("\nERROR ESTABLISHING MYSQL CONNECTION CHECK USERNAME AND PASSWORD !")
#MODULE TO ESTABLISHED MYSQL CONNECTION
def MYSQLconnection ():
      global userName
      global password
      global myConnection
      my Connection = my sql. connector. connect (host = "local host", user = user Name, passwd = password", user = user Name, passwd = password", user = user Name, passwd = password = passwo
database="ATM", auth_plugin='mysql_native_password')
      if myConnection:
            return myConnection
      else:
            print("\nERROR ESTABLISHING MYSQL CONNECTION !")
            myConnection.close()
# MODULE TO CREATE NEW CUSATOMER
def newCustomer():
      global cid
      if myConnection:
            cursor=myConnection.cursor()
             createTable ="""CREATE TABLE IF NOT EXISTS CUSTOMER(CID VARCHAR(10) PRIMARY KEY
,CNAME VARCHAR(30) NOT NULL
```

```
,ADDRESS VARCHAR(30)NOT NULL ,PHONE VARCHAR(12) NOT NULL)
    cursor.execute(createTable)
    print("\nPlease Fill All The Information Carefully !")
    cid=input("Please Enter Customer ID: ")
    cname=input("Please Enter Customer Name: ")
    address=input("Please Enter Customer Address: ")
    phone=input("Please Enter Customer Contact No.: ")
    sql='INSERT INTO CUSTOMER(cid,cname,address,phone) values(%s,%s,%s,%s)'
    values=(cid,cname,address,phone)
    cursor.execute(sql,values)
    cursor.execute("COMMIT")
    cursor.close()
    print("\nNew Customer Added Successfully !")
# MODULE TO DISPLAY CUSTOMER INFORMATION:
def displayAllCustomer():
  if myConnection:
    cursor=myConnection.cursor()
    cursor.execute("SELECT * FROM CUSTOMER")
    data = cursor.fetchall()
    if data:
      print("\n*****DETAILS OF ALL CUSTOMER*****")
      print(data)
    else:
      print("Sorry! No Record Found, Please Try Again!")
  else:
    print("\nERROR ESTABLISHING MYSQL CONNECTION !")
```

```
# MODULE TO SEARCH A CUSTOMER
def searchCustomer():
  global cid
  if myConnection:
    cursor=myConnection.cursor()
    cid=input("Please Enter Customer ID: ")
    sql="SELECT * FROM CUSTOMER WHERE CID = %s"
    values=(cid,)
    data=cursor.execute(sql,values)
    data = cursor.fetchall()
    if data:
      print("\n*****CUSTOMER DETAILS*****")
      print(data)
    else:
      print("Sorry! Customer NOT Found, Please Try Again!"]
  else:
    print("\nSomthing Went Wrong ,Please Try Again !")
# MODULE TO OPEN A NEW ACCOUNT
def newAccount():
  global cid
  if myConnection:
```

cursor=myConnection.cursor()

```
createTable ="""CREATE TABLE IF NOT EXISTS ACCOUNT(CID VARCHAR(10),ACCOUNT_NO INT
PRIMARY KEY
            ,ACCOUNT_TYPE VARCHAR(20) NOT NULL ,AMOUNT INT NOT NULL , PIN INT NOT NULL
UNIQUE)
          ппп
     cursor.execute(createTable)
     account_no=int(input("PLEASE ENTER THE ACCOUNT NUMBER [0-9]: "))
     account_type=input("PLEASE ENTER THE ACCOUNT TYPE [ S-SAVING / C - CURRENT : ")
     amount=int(input("PLEASE ENTER THE AMOUNT TO DEPOSIT: "))
     ATM_pin=int(input("PLEASE ENTER THE ATM PIN [ FOUR DIGITIS ONLY ] : "))
     sql='INSERT INTO ACCOUNT (cid,account_no,account_type,amount ,pin) VALUES
(%s,%s,%s,%s,%s)'
     values1=(cid,account_no,account_type,amount,ATM_pin)
     cursor.execute(sql,values1)
     cursor.execute("COMMIT")
     print("\nNew Account Opend Successfully !")
    else:
     print("Sorry! Customer NOT Found, Please Try Again!")
  else:
   print("\nSomthing Went Wrong ,Please Try Again !")
# MODULE TO DISPLAY ALL ACCOUNTS
def displayAllAccounts():
 if myConnection:
    cursor=myConnection.cursor()
    cursor.execute("SELECT * FROM ACCOUNT")
   data = cursor.fetchall()
    if data:
      print("\n*****DETAILS OF ALL CUSTOMER*****")
```

```
print(data)
   else:
     print("Sorry! No Account Information, Please Try Again!")
  else:
   print("\nERROR ESTABLISHING MYSQL CONNECTION !")
# MODULE TO SEARCH AN ACCOUNT
def searchAccount():
 global cid
 if myConnection:
   cursor=myConnection.cursor()
    cid=input("PLEASE ENTER CUSTOMER ID: ")
   account_no=int(input("PLEASE ENTER THE ACCOUNT NUMBER [0-9]: "))
    sql="SELECT * FROM ACCOUNT WHERE CID = %s AND ACCOUNT_NO =%
   values=(cid,account_no)
    data=cursor.execute(sql,values)
    data = cursor.fetchall()
   if data:
      print("\n*****CUSTOMER ACCOUNT DETAILS*****")
     print(data)
   else:
     print("Sorry! Account Infromation NOT Found, Please Try Again!")
  else:
    print("Somthing Went Wrong ,Please Try Again !")
# MODULE TO WITHDRAW AMOUNT
def withdrawAmount():
 count =3
 if myConnection:
```

```
cursor=myConnection.cursor()
account_no=int(input("PLEASE ENTER THE ACCOUNT NUMBER [0-9]: "))
sql="SELECT * FROM ACCOUNT WHERE ACCOUNT_NO =%s"
values=(account_no,)
data=cursor.execute(sql,values)
data = cursor.fetchall()
if data:
 while True:
 ATM_PIN=int(input("PLEASE ENTER THE ATM PIN - ONLY 3 ATTEMPTS ARE ALLOWED : ")
 sql='SELECT * FROM ACCOUNT WHERE PIN = %s'
 values=(ATM_PIN,)
 cursor.execute(sql,values)
 data = cursor.fetchall()
 if data:
    amount=int(input("PLEASE ENTER AMOUNT TO WITHDRAW: "))
    sql='UPDATE ACCOUNT SET AMOUNT = AMOUNT - %s'
    cursor.execute(sql,(amount,))
    cursor.execute("COMMIT")
    print("****** TRANSACTION SUCCESSFULLY COMPLETED! ******")
    print("***** PLEASE TAKE ONEY AND REMOVE YOUR CARD! *****")
    break
 else:
    print("Wrong Pin! Please enter a Valid PIN")
    count=count-1
    print("You are left with only ",count ,"Attempts")
 if count == 0:
    print("Your Card has been Blocked, Please Visit the Branch to activate it")
    break
else:
  print("Sorry! Account Infromation NOT Found, Please Try Again!")
```

#STARTING POINT OF THE SYSTEM

```
myConnection = MYSQLconnectionCheck ()
if myConnection:
MYSQLconnection ()
while(1):
 print("\n!===========!")
           PLEASE ENTER 1 FOR NEW USER
                                                 !")
 print("!
 print("!
           PLEASE ENTER 2 TO DISPLAY ALL CUSTOMERS
                                                       !")
 print("!
           PLEASE ENTER 3 TO SEARCH A CUSTOMER
                                                      !")
 print("!
           PLEASE ENTER 4 TO OPEN NEW ACCOUNT
                                                      !")
           PLEASE ENTER 5 TO DISPLAY ALL ACCOUNTS
                                                      !")
 print("!
           PLEASE ENTER 6 TO SEARCH AN ACCOUNT
 print("!
                                                      !")
           PLEASE ENTER 7 TO WITHDRAW AMOUNT
                                                       !")
 print("!
                                             !")
 print("!
           PLEASE ENTER 8 TO EXIT
                                              !")
 print("!
           PLEASE ENTER 0 FOR HELP
 print("\n!===========!")
 choice = int(input("\n Please Enter Your Choice : "))
 if choice == 1:
   newCustomer()
 elif choice == 2:
   displayAllCustomer()
 elif choice == 3:
  searchCustomer()
 elif choice == 4:
   newAccount()
 elif choice==5:
   displayAllAccounts()
```

```
elif choice==6:
    searchAccount()
elif choice==7:
    withdrawAmount()
elif choice==8:
    break
elif choice==0:
    helpMe()
else:
    print("Sorry ,May Be You Are Giving Me Wrong Input, Please Try Again !!! ")
else:
print("Check Your MYSQL Connection First !!! ")
```



NEW USER

```
*Python 3.7.0 Shell*
                                                                 П
                                                                       X
<u>File Edit Shell Debug Options Window Help</u>
CONGRATULATIONS ! YOUR MYSQL CONNECTION HAS BEEN ESTABLISHED !
        _____*
        PLEASE ENTER 1 FOR NEW USER
        PLEASE ENTER 2 TO DISPLAY ALL CUSTOMERS
        PLEASE ENTER 3 TO SEARCH A CUSTOMER
        PLEASE ENTER 4 TO OPEN NEW ACCOUNT
        PLEASE ENTER 5 TO DISPLAY ALL ACCOUNTS
        PLEASE ENTER 6 TO SEARCH AN ACCOUNT
        PLEASE ENTER 7 TO WITHDRAW AMOUNT
        PLEASE ENTER 8 TO EXIT
        PLEASE ENTER O FOR HELP
!-----!
Please Enter Your Choice : 1
Please Fill All The Information Carefully !
Please Enter Customer ID : 123
Please Enter Customer Name : AKSHIT
Please Enter Customer Address : PALAMPUR
Please Enter Customer Contact No. : 88925656
New Customer Added Successfully !
               _____**********
        PLEASE ENTER 1 FOR NEW USER
        PLEASE ENTER 2 TO DISPLAY ALL CUSTOMERS
        PLEASE ENTER 3 TO SEARCH A CUSTOMER
        PLEASE ENTER 4 TO OPEN NEW ACCOUNT
        PLEASE ENTER 5 TO DISPLAY ALL ACCOUNTS
         PLEASE ENTER 6 TO SEARCH AN ACCOUNT
        PLEASE ENTER 7 TO WITHDRAW AMOUNT
        PLEASE ENTER 8 TO EXIT
        PLEASE ENTER 0 FOR HELP
!----!
Please Enter Your Choice :
                                                                Ln: 39 Col: 0
```

DISPLAYING CUSTOMER DETAILS

SEARCHING A CUSTOMER

```
! PLEASE ENTER 1 FOR NEW USER
! PLEASE ENTER 2 TO DISPLAY ALL CUSTOMERS
! PLEASE ENTER 3 TO SEARCH A CUSTOMER
! PLEASE ENTER 4 TO OPEN NEW ACCOUNT
! PLEASE ENTER 5 TO DISPLAY ALL ACCOUNTS
! PLEASE ENTER 6 TO SEARCH AN ACCOUNT
! PLEASE ENTER 7 TO WITHDRAW AMOUNT
! PLEASE ENTER 8 TO EXIT
! PLEASE ENTER 8 TO EXIT
! PLEASE ENTER 0 FOR HELP
!

Please Enter Your Choice : 3
Please Enter Customer ID : 123

*****CUSTOMER DETAILS*****
[('123', 'AKSHIT', 'PALAMPUR', '88925656')]
```

OPENING NEW ACCOUNT

```
PLEASE ENTER 1 FOR NEW USER
       PLEASE ENTER 2 TO DISPLAY ALL CUSTOMERS
       PLEASE ENTER 3 TO SEARCH A CUSTOMER
       PLEASE ENTER 4 TO OPEN NEW ACCOUNT
       PLEASE ENTER 5 TO DISPLAY ALL ACCOUNTS
       PLEASE ENTER 6 TO SEARCH AN ACCOUNT
       PLEASE ENTER 7 TO WITHDRAW AMOUNT
       PLEASE ENTER 8 TO EXIT
       PLEASE ENTER O FOR HELP
Please Enter Your Choice : 4
Please Enter Customer ID :
PLEASE ENTER THE ACCOUNT NUMBER [0-9]: 213548497
PLEASE ENTER THE ACCOUNT TYPE [ S-SAVING / C - CURRENT : S
PLEASE ENTER THE AMOUNT TO DEPOSIT : 21045
PLEASE ENTER THE ATM PIN [ FOUR DIGITIS ONLY ] : 1111
New Account Opend Successfully !
```

DISPLAYING ALL ACCOUNTS

```
Please Enter Your Choice : 5
*****DETAILS OF ALL CUSTOMER****
[('123', 213548497, '5', 21045, 1111)]
PLEASE ENTER 1 FOR NEW USER
       PLEASE ENTER 2 TO DISPLAY ALL CUSTOMERS
      PLEASE ENTER 3 TO SEARCH A CUSTOMER
      PLEASE ENTER 4 TO OPEN NEW ACCOUNT
      PLEASE ENTER 5 TO DISPLAY ALL ACCOUNTS
      PLEASE ENTER 6 TO SEARCH AN ACCOUNT
       PLEASE ENTER 7 TO WITHDRAW AMOUNT
      PLEASE ENTER 8 TO EXIT
      PLEASE ENTER O FOR HELP
Please Enter Your Choice :
                                              Lp. 149 Col. 3
```

SEARCHING ACCOUNT

```
Please Enter Your Choice : 6
PLEASE ENTER CUSTOMER ID : 123
PLEASE ENTER THE ACCOUNT NUMBER [0-9]: 213548497
*****CUSTOMER ACCOUNT DETAILS****
[('123', 213548497, '5', 21045, 1111)]
PLEASE ENTER 1 FOR NEW USER
       PLEASE ENTER 2 TO DISPLAY ALL CUSTOMERS
       PLEASE ENTER 3 TO SEARCH A CUSTOMER
       PLEASE ENTER 4 TO OPEN NEW ACCOUNT
       PLEASE ENTER 5 TO DISPLAY ALL ACCOUNTS
       PLEASE ENTER 6 TO SEARCH AN ACCOUNT
       PLEASE ENTER 7 TO WITHDRAW AMOUNT
       PLEASE ENTER 8 TO EXIT
       PLEASE ENTER 0 FOR HELP
Please Enter Your Choice :
```

WITHDRAWING ACCOUNT

```
Please Enter Your Choice : 7
PLEASE ENTER THE ACCOUNT NUMBER [0-9]: 213548497
PLEASE ENTER THE ATM PIN - ONLY 3 ATTEMPTS ARE ALLOWED : 1111
PLEASE ENTER AMOUNT TO WITHDRAW : 250
****** TRANSACTION SUCCESSFULLY COMPLETED ! ******
***** PLEASE TAKE ONEY AND REMOVE YOUR CARD ! *****
PLEASE ENTER 1 FOR NEW USER
       PLEASE ENTER 2 TO DISPLAY ALL CUSTOMERS
       PLEASE ENTER 3 TO SEARCH A CUSTOMER
       PLEASE ENTER 4 TO OPEN NEW ACCOUNT
       PLEASE ENTER 5 TO DISPLAY ALL ACCOUNTS
       PLEASE ENTER 6 TO SEARCH AN ACCOUNT
       PLEASE ENTER 7 TO WITHDRAW AMOUNT
       PLEASE ENTER 8 TO EXIT
       PLEASE ENTER 0 FOR HELP
!----!
Please Enter Your Choice :
```

BACKEND DATA GENERATED

```
MySQL 8.0 Command Line Client - Unicode
 Tables_in_atm
 account
 customer
 rows in set (0.00 sec)
mysql> desc account;
                                   Null | Key
                                                  Default | Extra
 Field
                   Type
 CID
                   varchar(10)
                                    YES
                                                   NULL
                   int(11)
varchar(20)
int(11)
int(11)
 ACCOUNT_NO
                                   NO
                                            PRI
                                                   NULL
 ACCOUNT_TYPE
                                   NO
                                                   NULL
 AMOUNT
                                   NO
                                                   NULL
 PIN
                                   NO
                                            UNI
                                                   NULL
 rows in set (0.00 sec)
nysql> desc customer;
 Field
             Type
                             Null
                                      Key
                                            Default | Extra
             varchar(10)
varchar(30)
varchar(30)
 CID
                              NO
                                      PRI
                                             NULL
 CNAME
                             NO
                                             NULL
 ADDRESS
                             NO
                                             NULL
             varchar(12)
 PHONE
                             NO
                                             NULL
 rows in set (0.00 sec)
mysql> select*from account ;
         ACCOUNT_NO | ACCOUNT_TYPE |
 CID
                                          AMOUNT |
                                                     PIN
           213548497 | S
                                            20795
 123
                                                     1111
 row in set (0.00 sec)
mysq1>
```

```
5 rows in set (0.00 sec)
mysql> desc customer;
 Field
                             Nu11
                                            Default |
             Type
                                     Key
                                                       Extra
             varchar(10)
varchar(30)
varchar(30)
varchar(12)
  CID
                             NO
                                     PRI
                                            NULL
  CNAME
                             NO
                                            NULL
  ADDRESS
                             NO
                                            NULL
  PHONE
                                            NULL
 rows in set (0.00 sec)
mysql> select*from account ;
 CID
         ACCOUNT_NO | ACCOUNT_TYPE
                                         AMOUNT
                                                   PTN
 123
           213548497
                                           20795
                                                  11111
 row in set (0.00 sec)
mysql> select*from customer;
 CID
        CNAME
                  ADDRESS
                               PHONE
      | AKSHIT | PALAMPUR
                              88925656
 row in set (0.00 sec)
```

SOURES

- 1- CODE ACADEMY
- 2- LAYAK.IN
- 3- TUTORIALSPOINT.COM
- 4- PYTHONCHALLENGE.COM
- 5- LEARNPYTHON.ORG

For I in range(1,100): print("thank you!")