# Online Python compiler (interpreter) to run Python online.

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'''import maskpass # importing maskpass library

# masking the password

pwd = maskpass.advpass()

print('Password : ', pwd)'''

import re

import datetime

today = datetime.date.today()

year = today.year

month=today.month

date=today.day

startnumber=['1000',]

sc={"maharashtra":['pune','mumbai','nashik'],'gujarat':['surat','rajkot'],'karnataka':['mysore',]}

ifsc={'pune':'620001','mumbai':'620002','nashik':'620003','surat':'620004','rajkot':'620005','mysore':'620006'}

acctype=["savings","current","salary"]

AllAccounts=[]

def checkLogin(accno,passw):

flag=0

for i in AllAccounts:

if (i.accno ==usernm) and (i.password==passw):

return True

flag=1

if flag==0:

return False

def checkDOB(dob):

exp='^[0-9]{2}[/]{1}[0-9]{2}[/]{1}[0-9]{4}$'

# print(dob[3:5])

if re.match(exp,dob):

if(int(dob[0:2])<=31 and int(dob[3:5])<=12 and

int(dob[6:10])<=year):#date year month validation

if(int(dob[0:2])>28 and dob[3:5]=='02' and int(dob[6:10])%4!=0):

return False

elif( (dob[3:5]=='04' or dob[3:5]=='06' or dob[3:5]=='09' or dob[3:5]=='11') and (int(dob[0:2])>30)):

return False

elif(int(dob[6:10])==year and int(dob[3:5])>=month and int(dob[0:2])>date):

return False

return True

return False

return False

def checkName(name):

n=name.split()

if (len(n)==3):

if (n[0].isalpha() and n[1].isalpha() and n[2].isalpha()):

return True

return False

#Check Valid Number

def checkMobile(number):

if(len(number)==10 and number.isdigit()):

return True

return False

#Calculate Age

def calAge(dob):

d=dob.split('/')

if(len(d)==3):

year=d[2]

age=2023-int(year)

return age

return "invalid"

#check Adhar number

import re

def checkAdhar(number):

if len(number)==12:

return True

return False

def checkAccType(acctype,startamt):

if acctype.lower() in acctype:

if acctype.lower()=="savings":

if startamt>5000:

return True

else:

return False

elif acctype.lower()=="current":

if startamt>10000:

return True

else:

return False

elif acctype.lower()=="salary" and startamt>=0 or startamt<=0:

return True

else:

return False

#check Pan Number

def checkPan(number):

#1st 5 char then 4 digit then 1 char 0-4,5-8 digit 9 char

if number[0:5].isupper() and number[5:9].isdigit() and number[9].isupper():

return True

return False

#Check Valid State:

def checkCity(state,city):

# sc={"Maharashtra":['Pune','Mumbai','Nashik'],'Gujarat':['Surat','Rajkot'],'Karnataka':['Mysore',]}

key=sc.keys()

#print(key)

if state.lower() in key:

v=sc[state]

if city.lower() in v:

return True

else:

return False

else:

return False

#print(checkCity('Nashik','Rajkot'))

def generateIFSC(state,city):

if checkCity(state.lower(),city.lower()):

for i in ifsc:

if i.lower()==city:

return ifsc[i]

else:

return 0

def validGender(g):

gender=("male","female")

for i in gender:

if g.lower() in gender:

return True

else:

return False

class Account:

accno=''

password=''

details=[]

# a1=Account(name,mobile,adhar,pan,dob,state,city,acctype,startamt)

def \_\_init\_\_(self,name,mobile,gender,adhar,pan,dob,branchstate,branchcity,accounttype,balance):

self.name=name

self.mobile=mobile

self.gender=gender

self.adhar=adhar

self.pan=pan

self.dob=dob

self.branchstate=branchstate

self.branchcity=branchcity

self.acctypei=accounttype

self.balance=balance

# self.accno=generateAccNo()

def generateAccNo(self):

startnumber[0]=int(startnumber[0])+1

self.accno="BOI"+str(startnumber[0])

return self.accno

def generatePassword(self,name,accid):

self.password=self.password+self.name[0:4]+"@"+self.accno[3:7]

return self.password

def display(self):

print(" "," \_ "\*15,"\n")

print( "\n | Account Number : ",self.accno,"\n | Name : ",self.name,"\n | Mobile Number : ",self.mobile,"\n | Gender : ",self.gender,"\n | Adhar Number : ",self.adhar,"\n | Pan Number : ",self.pan,"\n | Date Of Birth : ",self.dob,"\n | Age : ",calAge(self.dob),"\n | Branch State : ",self.branchstate,"\n | Branch City : ",self.branchcity,"\n | IFSC Code : ",generateIFSC(self.branchstate,self.branchcity),"\n | Account Type : ",self.acctypei,"\n | Available Balance : ",self.balance,"\n | Password : ",self.password)

print(" "," \_ "\*15,"\n")

#obj1

a1=Account('aaa bbb ccc','2345556677','male','777799995555','UUURR5600U','09/03/2002','maharashtra','mumbai','Salary',20000)

accno=a1.generateAccNo()

password=a1.generatePassword(accno,'aaa bbb ccc')

AllAccounts.append(a1)

a2=Account('xx yy zz','999666554','female','667700095555','UYRRE5600I','12/12/1999','maharashtra','pune','current',50000)

accno=a2.generateAccNo()

password=a2.generatePassword(accno,'xx yy zz')

AllAccounts.append(a2)

while(True):

print("Login as a : \nA. Admin \nB. User\nC. Exit")

login=input("Enter (A/B): ")

if login=='A' or login=='a':

adminpass=input("Enter Password : ")

if adminpass=='ADMIN':

ch=0

while(ch>=0 and ch<=6 ):

print("\n1. create New Account \n2. Update Account\n3. Delete Account\n4. Search Account\n5. Show Accounts\n6. View Branches\n7. exit")

ch=int(input("\nEnter choice : "))

if ch==1:

while(True):#for name only

name=input("Name : ")

if checkName(name):

break

else:

print("Name should contain first middle and last name")

while(True):#for mobile number

mobile=input("Mobile Number: ")

if checkMobile(mobile):

break

else:

print("Mobile Number should contain 10 digits only")

while(True):#gender

gender=input("Gender : ")

if validGender(gender):

break

else:

print("Enter Male/Female")

while(True):#for Adhar

adhar=input("Adhar Number : ")

if checkAdhar(adhar):

break

else:

print("Invalid Adhar Number")

while(True):#for pan

pan=input("Pan Number : ")

if checkPan(pan):

break

else:

print("Invalid Pan Number")

while(True):#dob

dob=input("Date Of Birth (dd/mm/yyyy) : ")

if checkDOB(dob):

break

else:

print("\tPlease Enter Valid Date")

print("Branches we have : ")

for k,v in sc.items(): print("\nState : ",k,"\nCity : ",v,"\n")

while(True):#choose branch

state=input("Choose Branch state : ")

city=input("choose Branch City : ")

if checkCity(state.lower(),city.lower()):

break

else:

print("Choose Valid Branch")

while(True):

acctypei=input("\nAccount Types\nSavings\nCurrent\nSalary\nSelect Account Type : ")

if acctypei in acctype:

startamt=int(input("Enter Starting balance : "))

if(checkAccType(acctypei.lower(),startamt)):

break

else:

print("Min balance for\n Savings Account: 5000\nCurrent Account : 10000")

else:

print("Invalid Account type..")

a1=Account(name,mobile,gender,adhar,pan,dob,state,city,acctypei,startamt)

accno=a1.generateAccNo()

password=a1.generatePassword(accno,name)

AllAccounts.append(a1)

#accno=a1.generateAccNo()

#password=a1.generatePassword(accno,name)

print("Account successfully Created..")

a1.details=(accno,password,name,mobile,adhar,pan,dob,state,city,acctype,startamt,password)

elif ch==2:

flag1=0

uch=0

while(uch>=0 and uch<3):

print("\n1. Update Name\n2. Update Mobile number\n3. Exit")

uch=int(input("Enter your Choice : "))

if uch==1:

uno=input("Enter Account Number : ")

for i in AllAccounts:

if i.accno==uno:

unm=input("updated name : ")

if checkName(unm):

i.name=unm

flag1=1

print("\nRecord Updated Successfully!!")

break

else:

print("\nname should contain first middle and last name")

if flag1==0:

print("Invalid Account Number")

elif uch==2:

uno=input("\nEnter Account Number : ")

for i in AllAccounts:

if i.accno==uno:

unum=input("\nupdated Mobile Number : ")

if(checkMobile(unum)):

i.mobile=unum

flag1=1

print("Record Updated Successfully!!")

break

else:

print("\nNumber should contain 10 digits")

if flag1==0:

print("Invalid Account Number")

elif uch==3:

break

print("Invalid choice")

elif ch==3:

f=1

p=input("Enter Account Number ")

for i in AllAccounts:

if i.accno==p:

sure=input("\n\tpress Y to continue deletion : ")

if sure=='Y' or sure=='y':

AllAccounts.remove(i)

f=0

else:

print("\n\t Deletion Cancelled")

f=6

if f==1:

print("\n\t Record Not Found")

if f==0:

print("\n\t Record Deleted Successfully..")

elif ch==4:

sch=0

flag=0

while(ch>=0 and ch<5):

print("\n1. search by Account Number\n2. Search by Account Type\n3. Search by Branch State\n4. Search by Branch city\n5. Exit")

sch=int(input("select choice : "))

if sch==1:#search by acount number

accn=input("Enter Account Number : ")

for i in AllAccounts:

if i.accno==accn:

i.display()

flag=1

break

if flag==0:

print("No records Found..")

elif sch==2:#search by account Type

count=0

acct=input("Enter Account Type : ")

if acct in acctype:

for i in AllAccounts:

if i.acctypei==acct:

count=count+1

i.display()

flag=1

if flag==0:

print("No Records Found..")

else:

print("No such account type exist")

print(count," records Found!")

elif sch==3:#search by state

count=0

accst=input("Enter Branch State : ")

if accst.lower() in sc.keys():

for i in AllAccounts:

if i.branchstate==accst:

count=count+1

i.display()

flag=1

if flag==0:

print("No Records Found..")

elif accst.lower() in ifsc.keys():

print("Choose option 4 to search by City ")

else:

print("we dont have branch in",accst)

print(count," Records Found!")

elif sch==4:#search by city

count=0

accct=input("Enter Branch City : ")

if accct.lower() in ifsc.keys():

for i in AllAccounts:

if i.branchcity==accct:

i.display()

count=count+1

flag=1

if flag==0:

print("No Records Found..")

elif accct.lower() in sc.keys():

print("Choose option 3 to search by State ")

else:

print("we dont have any branch in ",accct)

print(count," Records Found!")

elif sch==5:

pass

else:

print("Invalid Choice")

elif ch==5:

if len(AllAccounts)==0:

print("no records found")

else:

for i in AllAccounts:

i.display()

elif ch==6:

print("\nOur Branches Are : ")

for k,v in sc.items():

print("\nState : ",k,"\nCities : ",v)

elif ch==7:

print(" --- Thank you! Visit Again!! --- ")

break

else:

print("invalid choice")

else:

print("Invalid password..")

#break

elif login=='B' or login=='b':

f=0

while(True):

usernm=input("Enter Account Number : ")

passw=input("Enter Password : ")

if checkLogin(usernm,passw):

flag=1

break

else:

flag=0

break

if flag==1:

usch=0

print("\nAuthentication Completed..")

while(usch>=0 and usch<4):

print("\n1. View My Account\n2. Withdraw Amount\n3. Deposite Amount\n4. Exit")

usch=int(input("Enter choice : "))

if usch==1:

for i in AllAccounts:

if (i.accno ==usernm):

i.display()

elif usch==2:

amt=int(input("Enter amount to be Withdraw : "))

for i in AllAccounts:

if i.accno==usernm:

if i.acctypei.lower()=='savings':

if (i.balance)-5000<=amt :

print("Insufficient balance")

print("Minimum balance for Saving account is 5000")

else:

i.balance=i.balance-amt

print("Transaction Completed Successfully..\nAvailable balance : ",i.balance)

elif i.acctypei.lower()=='current':

if (i.balance)-10000<=amt :

print("Insufficient balance")

print("Minimum balance for Current account is 10000")

else:

i.balance=i.balance-amt

print("Transaction Completed Successfully..\nAvailable balance : ",i.balance)

elif i.acctypei.lower()=='salary':

if (i.balance)<=0 :

print("Insufficient balance")

else:

i.balance=i.balance-amt

print("Transaction Completed Successfully..\nAvailable balance : ",i.balance)

elif usch==3:

amt=int(input("Enter amount to be Deposited : "))

for i in AllAccounts:

if i.accno==usernm:

i.balance=i.balance+amt

print("Amount Deposited Successfully..")

elif usch==4:

print(" --- Thank you! Visit Again!! --- ")

break

else:

print("Invalid choice")

elif flag==0:

print("Account Number not found.")

elif login=='C' or login=='c':

print("--- Thank you! Visit Again!! ---")

else:

print("Invalid ")