## 完成中国工商银行的数据库版本

*import* random  
*import* pymysql  
  
  
  
  
*# 确定银行的开户名称*bank\_name = "中国工商银行昌平区回龙观支行"  
  
info = '''  
 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
 \* 中国工商银行账户管理系统 \*  
 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
 \* 1.开户 \*  
 \* 2.存款 \*  
 \* 3.取款 \*  
 \* 4.转账 \*  
 \* 5.查询账户 \*  
 \* 6.Bye！ \*  
 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
'''  
  
  
*# 银行的开户逻辑  
def* bank\_adduser(account, username, password, country, province, street, door, money):  
 con = pymysql.connect(host="localhost", user="root", password="root", database="gsyh")  
 *# 通过con连接得到游标（执行sql语句的地方）* cursor = con.cursor()  
 *# 准备一条sql语句* sql = "select *\** from bank"  
 cursor.execute(sql)  
 *# 查询，从游标里提取数据* data = cursor.fetchall()  
 *# 判断用户库是否已满  
 if len*(data) >= 100:  
 *return* 3  
  
 *# 判断是否存在  
 # 获取所有键，然后在判断是否有  
 for* d *in* data:  
 *if* d[0] == account:  
 *return* 2  
  
 sql2 = "insert into bank values(%s,%s,%s,%s,%s,%s,%s,%s,%s)"  
 param = [account, username, password, country, province, street, door,bank\_name, money]  
 cursor.execute(sql2,param)  
 con.commit()  
 cursor.close()  
 con.close()  
 *return* 1  
  
  
*# 开户逻辑  
def* adduser():  
 *# 生成账号： 8位随机* string = "" *# 随机数缓冲  
 for* i *in range*(8): *# 循环8次取字符* string = string + "1234567890"[random.randint(0, 9)] *# 拼接* account = string  
 *print*("账号为：", account)  
 username = *input*("请输入姓名：")  
 password = *input*("请输入密码：")  
 *print*("接下来输入地址信息：")  
 country = *input*("\t输入国家：")  
 province = *input*("\t输入省份：")  
 street = *input*("\t输入街道：")  
 door = *input*("\t输入门牌号：")  
 money = *input*("请初始化您的余额：")  
  
 *# 调用银行的开户方法* s = bank\_adduser(account, username, password, country, province, street, door, money)  
  
 *if* s == 1:  
 *print*("开户成功！")  
 *print*("以下是您的开户个人信息：")  
 *print*("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")  
 *print*("账号：", account)  
 *print*("用户名：", username)  
 *print*("密码：\*\*\*\*\*\*")  
 *print*("国家：", country)  
 *print*("省份：", province)  
 *print*("街道：", street)  
 *print*("门牌号：", door)  
 *print*("账户余额：", money)  
 *print*("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*开户行地址：", bank\_name)  
  
 *elif* s == 2:  
 *print*("该用户已存在！")  
 *elif* s == 3:  
 *print*("对不起，该银行已满！请携带证件到其他银行办理！")  
  
  
*# 银行的存款逻辑  
def* bank\_deposit(account):  
 con = pymysql.connect(host="localhost", user="root", password="root", database="gsyh")  
 *# 通过con连接得到游标（执行sql语句的地方）* cursor = con.cursor()  
 *# 准备一条sql语句* sql = "select *\** from bank"  
 cursor.execute(sql)  
 *# 查询，从游标里提取数据* data = cursor.fetchall()  
 *# 账号存在  
 for* d *in* data:  
 *if* d[0] == account:  
 money = *int*(*input*("请输入金额："))  
 money = money + *int*(d[8])  
 update = "update bank set 余额='"+*str*(money)+"' where 账号="+account  
 cursor.execute(update)  
 con.commit()  
 cursor.close()  
 con.close()  
 *return True  
  
 # 账号不存在  
 return False  
  
  
# 存款逻辑  
def* deposit():  
 account = *input*("请输入账号：")  
 s = bank\_deposit(account)  
  
 *if* s *is True*:  
 con = pymysql.connect(host="localhost", user="root", password="root", database="gsyh")  
 *# 通过con连接得到游标（执行sql语句的地方）* cursor = con.cursor()  
 *# 准备一条sql语句* sql = "select *\** from bank"  
 cursor.execute(sql)  
 *# 查询，从游标里提取数据* data = cursor.fetchall()  
 *for* d *in* data:  
 *if* d[0] == account:  
 *print*("存款成功，现有金额：", d[8])  
 cursor.close()  
 con.close()  
 *if* s *is False*:  
 *print*("账号不存在")  
  
*# 银行的取钱逻辑  
def* bank\_withdraw(account):  
 con = pymysql.connect(host="localhost", user="root", password="root", database="gsyh")  
 *# 通过con连接得到游标（执行sql语句的地方）* cursor = con.cursor()  
 *# 准备一条sql语句* sql = "select *\** from bank"  
 cursor.execute(sql)  
 *# 查询，从游标里提取数据* data = cursor.fetchall()  
 *# 账号存在  
 for* d *in* data:  
 *if* d[0] == account:  
 password = *input*("请输入密码：")  
 *if* d[2] == password:  
 money = *int*(*input*("请输入金额："))  
 *if* money <= *int*(d[8]):  
 money = *int*(d[8]) - money  
 update = "update bank set 余额='"+*str*(money)+"' where 账号="+account  
 cursor.execute(update)  
 con.commit()  
 *return* 0  
 *else*:  
 *return* 3  
 *else*:  
 *return* 2  
 *return* 1  
  
 cursor.close()  
 con.close()  
  
*# 取钱逻辑  
def* withdraw():  
 account = *input*("请输入账号：")  
 s = bank\_withdraw(account)  
 *if* s == 0:  
 con = pymysql.connect(host="localhost", user="root", password="root", database="gsyh")  
 *# 通过con连接得到游标（执行sql语句的地方）* cursor = con.cursor()  
 *# 准备一条sql语句* sql = "select *\** from bank"  
 cursor.execute(sql)  
 *# 查询，从游标里提取数据* data = cursor.fetchall()  
 *for* d *in* data:  
 *if* d[0] == account:  
 *print*("取款成功，剩余：", d[8])  
 cursor.close()  
 con.close()  
 *elif* s == 1:  
 *print*("账号不存在")  
 *elif* s == 2:  
 *print*("密码不正确")  
 *elif* s == 3:  
 *print*("金额不足")  
  
  
  
*# 银行的转账逻辑  
def* bank\_transfer(out\_account, in\_account):  
 con = pymysql.connect(host="localhost", user="root", password="root", database="gsyh")  
 *# 通过con连接得到游标（执行sql语句的地方）* cursor = con.cursor()  
 *# 准备一条sql语句* sql = "select *\** from bank"  
 cursor.execute(sql)  
 *# 查询，从游标里提取数据* data = cursor.fetchall()  
 *# 账号存在  
 for* c *in* data:  
 *if* c[0] == in\_account:  
 *for* d *in* data:  
 *if* d[0] == out\_account :  
 password = *input*("请输入密码：")  
 *if* d[2] == password:  
 money = *int*(*input*("请输入金额："))  
 *if* money <= *int*(d[8]):  
 money1 = *int*(d[8]) - money  
 money2 = *int*(c[8]) + money  
 update1 = "update bank set 余额='" + *str*(money1) + "' where 账号=" + out\_account  
 update2 = "update bank set 余额='" + *str*(money2) + "' where 账号=" + in\_account  
 cursor.execute(update1)  
 cursor.execute(update2)  
 con.commit()  
 *return* 0  
 *else*:  
 *return* 3  
 *else*:  
 *return* 2  
  
 *return* 1  
 cursor.close()  
 con.close()  
  
*# 转账逻辑  
def* transfer():  
 out\_account = *input*("请输入转出的账号：")  
 in\_account = *input*("请输入转入的账号：")  
  
 s = bank\_transfer(out\_account, in\_account)  
 *if* s == 0:  
 con = pymysql.connect(host="localhost", user="root", password="root", database="gsyh")  
 *# 通过con连接得到游标（执行sql语句的地方）* cursor = con.cursor()  
 *# 准备一条sql语句* sql = "select *\** from bank"  
 cursor.execute(sql)  
 *# 查询，从游标里提取数据* data = cursor.fetchall()  
 *# 账号存在  
 for* c *in* data:  
 *if* c[0] == in\_account:  
 *for* d *in* data:  
 *if* d[0] == out\_account:  
 *print*("转账成功")  
 *print*("转出账号剩余：", d[8])  
 *print*("转入账号剩余：", c[8])  
 cursor.close()  
 con.close()  
 *elif* s == 1:  
 *print*("转出或转入账号不存在")  
 *elif* s == 2:  
 *print*("密码不正确")  
 *elif* s == 3:  
 *print*("金额不足")  
  
  
*# 银行的查询逻辑  
def* bank\_inquire(account):  
 con = pymysql.connect(host="localhost", user="root", password="root", database="gsyh")  
 *# 通过con连接得到游标（执行sql语句的地方）* cursor = con.cursor()  
 *# 准备一条sql语句* sql = "select *\** from bank"  
 cursor.execute(sql)  
 *# 查询，从游标里提取数据* data = cursor.fetchall()  
 *# 账号存在* i = 0  
 *for* c *in* data:  
 *if* c[0] == account:  
 i = i+1  
 password = *input*("请输入密码：")  
 *if* password == c[2]:  
 *print*("前账号：", account)  
 *print*("密码：\*\*\*\*\*\*")  
 *print*("余额：", c[8])  
 *print*("用户居住地址：", c[3], c[4],c[5], c[6])  
 *print*("当前账户的开户行：", c[7])  
 *else*:  
 *print*("密码不正确")  
 *if* i == 0:  
 *print*("账户不存在")  
 cursor.close()  
 con.close()  
  
  
*# 查询逻辑  
def* inquire():  
 account = *input*("请输入账号")  
 bank\_inquire(account)  
  
  
*while True*: *# 一直循环的进入选项  
 print*(info)  
 chose = *input*("请输入您的选项：")  
 *if* chose == "1": *# 判断是否是1* adduser() *# 开户  
 elif* chose == "2": *# 判断是否是2* deposit()  
 *elif* chose == "3": *# 判断是否是3* withdraw()  
 *elif* chose == "4": *# 判断输入的是否是4* transfer()  
 *elif* chose == "5": *# 判断输入的是否是5* inquire()  
 *elif* chose == "6": *# 判断输入的是否是6，若是6则需要退出 break  
 print*("拜拜了您嘞！")  
 *break  
 else*:  
 *print*("输入非法！重新输入！")