WEEK 8 1BM19CS009 Ajith Kumar.G

Prog 5.

```
import java.util.Scanner;
import java.lang.Math;

abstract class account
{
  String name, accountNo, typeOfAccount;
  double balance;
  Boolean chequeBook;
  abstract void balanceDisplay();
  abstract void balanceCredit();
  abstract void balanceDebit();
  abstract void balanceCheck(double amount);
  abstract void operation();
}

class curAcc extends account
{
    Scanner get = new Scanner(System.in);
    double minBalance;
    curAcc()
    {
        System.out.println("\n<---- Welcome to Current Account,
          Enter the below details to create an Account---->");
        System.out.printf(" Name : "); name = get.nextline();
        typeOfAccount = "Current Account";
        accountNo = "SBE".concat("CUR-").concat(name);
        System.out.printf("Your Account No is %s",
              accountNo);
        minBalance = 1000;
        balance = 0;
        firstDeposit();
    }
    void firstDeposit(){
    System.out.println("\n You need to have min balance
    of " + minBalance + " Rupees, else you will be charged
    " + fineCol() + " every month \n Deposit Now! ");
```

```
        balanceCredit();
        System.out.printf("\n Thank you for creating an Account!\n");
        this.operation();
    }
    void fineCheck()
    {
        int k;
        if(balance<1000)
        {
            System.out.println("\n You need to have minimum
            balance of "+ minBalance+" Rupees, else you will be
            charged " + fineCal() + "\n Deposit Now!. ");
            System.out.println(" Press 1 to deposit or you
            will be charged with "+ fineCal());
            System.out.printf(" Choice : "); k=getNextInt();
            if (k==1)
                balanceCredit();
            else
                balance-= fineCal();
        }
    }
    double fineCal()
    {
        double fine=0;
        if (balance<0)
        { fine=100.0; }
        else
        if (balance>=0)
        { fine=50; }
        return fine;
    }
    void balanceCheck(double amount)
    {
        if (amount>balance)
        { System.out.printf("\n The Withdraw Amount exceeds
            the Balance, check your balance and try again!!!);
            balanceDisplay();
            operation();
        }
    }
```

```
void balanceCredit()
{
    double amount;
    System.out.printf("\n Enter the amount to deposit : ");
    amount = getNextDouble();
    balance += amount;
    System.out.printf("\n %0.4f amount is credited, Total balance
            = %0.4f ", amount, balance);
    fineCheck();
}
void balanceDebit()
{   double amount;
    System.out.printf("\n Enter the amount to withdraw : ");
    amount = getNextDouble();
    balanceCheck(amount);
    balance -= amount;
    System.out.printf("\n %0.4f amount was debited, total
        balance = %0.4f ", amount, balance);
    fineCheck();
}
void balanceDisplay()
{
    int choice, ft
    System.out.printf("\n total balance = %0.4f ", balance);
}
void operation()
{
    int choice, flag=0;
    do
    {
        System.out.printf("\n Enter the choice: \n 1. Deposit
        \n 2. withdraw \n 3. Display Balance \n 4. Exit \n Choice: ");
        choice = getNextInt();
        switch(choice)
        {
            case 1: this.balanceCredit();
                    break;
            case 2: this.balanceDebit();
                    break;
            case 3: this.balanceDisplay();
                    break;
```

```
case 4: System.exit(0);
default : System.out.println("\n Error Input Give choice again!");
          operation();
}
System.out.println("\n Do you wish to continue ? Press 1
to continue :");
flag = get.nextInt();
} while(flag==1);
}
}

class savAcc extends account
{
    Scanner get = new Scanner(System.in);
    double interestRate;
    double interest;
    int years;
    savAcc()
    {
        System.out.println("\n\n-Welcome to savings Account. Enter
        the below details to create an Account --->");
        System.out.print("Name : "); name=get.nextLine();
        typeOfAccount ="savings Account";
        chequeBook = false;
        accountNo = "SBI".concat("SAV-").concat(name);
        System.out.printf("Your Account No is %s", accountNo);
        balance=0;
        interestRate= 0.08;
        interest=0;
        postDeposit();
    }
    void postDeposit()
    {
        int k;
        System.out.printf("\n Do you wish to deposit money now?
        press 1 to deposit :");
        k=get.nextInt();
        if (k==1)
        balanceCredit();
```

```
System.out.printf("\n Thank you for creating an Account! \n");
this.operation();
}

void operation()
{
  int choice, flag=0;
  do
  {
    System.out.printf("\n Enter the choice: \n 1.Deposit \n 2. withdraw
    \n 3. Display Balance \n 4. Interest Display \n 5. Exit \n choice:");
    choice = get.nextInt();
    switch(choice)
    {
      case 1: this.balanceCredit();
              break;
      case 2: this.balanceDebit();
              break;
      case 3: this.balanceDisplay();
              break;
      case 4: this.compoundInt();
              break;
      case 5: System.exit(0);
      default: System.out.printf("\n Error input Give
               choice again!");
    }          operation();
    System.out.printf("\n Do you wish to continue ?
    Press 1 to continue :");
    flag = getnextInt();
  }while(flag==1);
}

void balanceCheck(double amount)
{  if(amount>balance)
   { System.out.printf("\n The withdraw Amount exceeds the
     Balance, check your balance and try again! ");
     balanceDisplay();
     operation();
   }
}
```

```
void balanceCredit()
{
 double amount;
 System.out.printf("\n Enter the amount to deposit:");
 amount = get.nextDouble();
 balance += amount;
 System.out.printf("%.4f amount is credited, total Balance = %.4f
      ", amount, balance);
}
 void balanceDebit();
 {
   double amount;
   System.out.printf("\n Enter the amount to withdraw: ");
   amount = get.nextDouble();
   balanceCheck(amount);
   balance -= amount;
   System.out.printf("\n %.4f amount was Debitted, Total Balance
      = %.4f", amount, balance);
 }
 void balanceDisplay()
 {
    System.out.printf("\n Total balance = %.4f", balance);
 }
 void compoundInt()
 { int k;
   if(balance==0)
   { System.out.printf("\n You have zero balance'. Press
      1 to Deposit and try again:");
     k = get.nextInt();
     if(k==1)
     balanceCredit();
     operation();
   }
   System.out.printf("\n Enter the No of years:");
   years = get.nextInt();
```

```
        interest = balance * Math.pow((1 + interestRate), years) - balance;
        System.out.printf("\n Initial Balance: %04f \n Interest: %0.4f ",
          balance, interest);
        balance += interest;
        System.out.printf("\n Final Balance : %04.f ", balance);
    }
}

class bank
{
    public static void main (String[] args)
    {
        int savCount = 0, curCount = 0, k, n = 0;
        Scanner get = new Scanner(System.in);
        System.out.printf("\n\n Enter No of Accounts (Max is 20) : ");
        n = getnextInt();
        SavAcc s[];
        CurAcc c[];
        s = new SavAcc[10];
        c = new CurAcc[10];
        do
        {
            System.out.printf("\n <---- Enter the type of Account ---->");
            System.out.printf("\n 1.Savings \n 2.Current \n Choice:");
            k = get.nextInt();
            switch(k)
            {
                case 1: s[savCount++] = new SavAcc();
                        break;

                case 2: c[curCount++] = new CurAcc();
                        break;

                default: System.out.printf(" Input Error!");
            }
        } while ((savCount + curCount) < n && savCount < 10 && curCount < 10);
    }
}
```