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5. Develop a Java program to create a class Bank that maintains 2 kinds of account for its customers, one called savings account and the other current account. The savings account provides compound interest & withdrawal facilities but no cheque book facility. The current account provides cheque book facility but no interest. Current account holders should also maintain a minimum balance & if the balance falls below this level, a service charge is imposed. Create a class Account that stores customer name, account number and type of account. From this, derive the classes Curr-acct and Sav-acct to make them more specific to their requirements. Include the necessary methods in order to achieve the following tasks :

- Accept deposit from customer & update the balance
- Display the balance
- Compute & deposit interest
- Permit withdrawal and update the balance.
- Check for minimum balance, impose penalty if necessary and update the balance.

```
import java.util.Scanner;
class Account
{
    String cust_name;
    int acc_num;
    String acc_type;
    double balance;
    Scanner in = new Scanner(System.in);
    Account(String cust_name, int acc_num, String acc_type,
        double balance)
    {
```

```
        this.cust_name = cust_name;
        this.acc_num = acc_num;
        this.acc_type = acc_type;
        this.balance = balance;
    }
    void Customer()
    {
        System.out.println("The " + this.acc_type +
            " status is:");
        System.out.println("Customer Name : " +
            this.cust_name);
        System.out.println("Account Number : " +
            this.acc_num);
        System.out.println("Account Type : " +
            this.acc_type);
    }
    void Balance_Status()
    {
        System.out.println("Balance Amount : " +
            this.balance);
    }
    void Deposit()
    {
        System.out.println("Enter deposit amount :");
        double deposit = in.nextDouble();
        balance += deposit;
    }
}
class Savings extends Account
{
    double withdraw, deposit;
    int rate, time;
    double bal, cinterest;
```

```
Savings (String cust_name, int acc_num, String acc_type,
        double balance){
{
    super(cust_name, acc_num, acc_type, balance);
}
Scanner in = new Scanner(System.in);
void Compound_Interest()
{
    System.out.println("Compound Interest: ");
    System.out.println("Enter rate of interest: ");
    rate = in.nextInt();
    System.out.println("Enter time in years: ");
    time = in.nextInt();
    bal = balance * Math.pow(1+(rate*0.01), time);
    cinterest = bal - balance;
    System.out.println("Compound Interest is : " +
            cinterest);
    balance = bal;
}
void Withdraw()
{
   System.out.println("Enter the amount to be withdrawn:");
   withdraw = in.nextDouble();
   if(balance < withdraw)
   {
       System.out.println("Not enough balance.
           Cannot withdraw.");
       withdraw = 0.0;
   }
   else
   {
       balance -= withdraw;
   }
```

```
        System.out.println("Amount withdrawn = " +
                withdraw);
    }
}
class Current extends Account
{
    double withdraw, deposit;
    double min_balance = 500;
    Scanner in = new Scanner(System.in)
    Current(String cust_name, int acc_num, String acc_type,
            double balance)
    {
        super(cust_name, acc_num, acc_type, balance);
    }
    void Withdraw()
    {
        System.out.println("Enter the amount to be withdrawn:");
        withdraw = in.nextDouble();
        if(balance < withdraw)
        {
            System.out.println("Not enough balance.
                Cannot withdraw.");
            withdraw = 0.0;
        }
        else
        {
            balance -= withdraw;
        }
        System.out.println("Amount withdrawn = " +
                withdraw);
    }
    void Minimum_Balance()
    {
```

```
        if (balance < min_balance)
        {
            System.out.println("Since balance amount is
                less than the minimum balance, service
                charge of 500 is imposed.");
            balance = balance - 500;
        }
    }
}
public class Bank
{
    public static void main(String args[])
    {
        String cust_name;
        int acc_num;
        int type;
        double balance;
        Scanner xx = new Scanner (System.in);
        System.out.println("Enter Customer Name :");
        cust_name = xx.next();
        System.out.println("Enter Account Number :");
        acc_num = xx.nextInt();
        System.out.println("Enter Account Type :");
        System.out.println("1. Savings Account");
        System.out.println("2. Current Account");
        type = xx.nextInt();
        if (type == 1)
        {
            System.out.println("Enter Balance amount :");
            balance = xx.nextInt();
            Savings s = new Savings(cust_name, acc_num,
                "Savings", balance);
            s.Customer();
```

```
            s.Balance_Status();
            s.Deposit();
            s.Balance_Status();
            s.Withdraw();
            s.Balance_Status();
            s.Compound_Interest();
            s.Customer();
            s.Balance_Status();
        }
        else if(type == 2)
        {
            System.out.println("Enter Balance amount:");
            balance = xx.nextInt();
            Current c = new Current(cust_name, acc_num,
            "Current", balance);
            c.Customer();
            c.Balance_Status();
            c.Deposit();
            c.Balance_Status();
            c.Withdraw();
            c.Balance_Status();
            c.Minimum_Balance();
            c.Customer();
            c.Balance_Status();
        }
        else
        {
            System.out.println("Invalid choice");
        }
    }
}
```