

## Lab program -5

Develop a java program to create a class Bank that maintains two kinds of account for its customers, one called savings account and the other current account. The saving account provides compound interest and 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 and 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 ~~savings~~ 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 and update the balance
- Display the balance
- Compute and deposit interest
- Permit withdrawal and update the balance.
- Check for minimum balance, impose



penalty if necessary and update the balance

```
Soln. import java.util.*;
class Account
{
    String name, type;
    int acc_no;
    double amount;
    Scanner in = new Scanner(System.in);
    void type (int choice)
    {
        if (choice == 1)
            type = "Saving Account";
        if (choice == 2)
            type = "Current Account";
    }
    void input()
    {
        System.out.println("Enter the amount
                           to be deposited.");
        double Name, Account number
        and Balance: ");
        name = in.next();
        acc_no = in.nextInt();
        amount = in.nextDouble();
    }
    void deposit()
    {
        System.out.println("Enter the amount
                           to be deposited.");
        double x = in.nextDouble();
```



```
        amount = amount + x;
    }
    void display()
    {
        System.out.println("Name: " + name);
        System.out.println("Account number: "
                             + acc_no);
        System.out.println("Type: " + type);
        System.out.println("Balance: " + amount);
    }
}
```

```
class Saving_acc extends Account
{
    double a, c_interest;
    int r, t;
    Scanner in = new Scanner(System.in);
    void withdrawal()
    {
        System.out.println("Enter the amount
                             to be
                             withdrawn: ");
        double amt_w = in.nextDouble();
        if (amt_w <= amount)
            amount = amount - amt_w;
        else
            System.out.println("Invalid
                                amount");
    }
    void emp_interest()
    {
        System.out.println("Enter the rate
                             and time: ");
    }
}
```



```

r = in.nextInt();
t = in.nextInt();
a = amount * Math.pow(1 + (r * 0.01), t);
CInterest = a - amount;
    
```

}

```

void display()
{
    
```

```

super.display();
    
```

```

System.out.println("Compound Interest
after " + t + "
years : " + CInterest
);
    
```

```

System.out.println("Amount after
" + t + " years : "
+ a);
    
```

}

}

```

class Current_acc extends Account
{
    
```

```

double min = 10000;
    
```

```

void input()
    
```

```

{
    
```

```

super.input();
    
```

}

```

void service_charge()
{
    
```

```

if (amount < min)
    
```

```

amount = amount - 500;
    
```

}

```

void display()
    
```

```

{
    
```

```

super.display();
    
```

}

```

3
class Banking
{
    public static void main (String args[])
    {
        Scanner in = new Scanner (System.in);
        System.out.println ("Choose type of
                                account.");
        System.out.println ("1. Saving
                                account.");
        System.out.println ("2. Current
                                account.");
        int choice = in.nextInt();

        if (choice == 1)
        {
            Saving acc = new Saving acc();
            acc.type (choice);
            acc.input ();
            System.out.println ("Do you
                                want to
                                deposit or
                                withdraw? In
                                1. Deposit
                                1n 2. Withdraw");

            int ch = in.nextInt();
            if (ch == 1)
                acc.deposit ();
            else if (ch == 2)
                acc.withdrawal ();
            else
                System.out.println ("Invalid choice")
        }
    }
}
    
```



```
        b.cmp-interest();
        b.display();
    }
    else if (choice == 2)
    {
        current_acc b = new current_acc();
        b.type(choice);
        b.input();
        b.deposit();
        b.service-charge();
        b.display();
    }
    else
        System.out.println("Invalid choice");
}
```