

## Lab program 4 :- week 8:-

1) abstract class shape

```
{  
    int side1, side2;  
    double area;  
    abstract void printArea();  
}
```

class Rectangle extends shape.

```
{  
    Rectangle (int l, int b)  
    {
```

```
        side1 = l;
```

```
        side2 = b;
```

```
    }
```

```
    void printArea()
```

```
    {
```

```
        area = side1 * side2;
```

```
        System.out.println("The area of the Rectangle is: " + area);
```

```
    }
```

```
}
```

class Triangle extends shape

```
{
```

```
    Triangle (int h, int b)
```

```
    {
```

```
        side1 = h;
```

```
        side2 = b;
```

```
    }
```

```
    void printArea()
```

```
    {
```

```
        area = 0.5 * side1 * side2;
```

```
        System.out.println("The Area of the Triangle is: " + area);
```

```
    }
```

```
}
```

```
class Circle extends Shape
```

```
{
```

```
    Circle(int r)
```

```
    {
```

```
        side1 = r;
```

```
    }
```

```
    void printArea()
```

```
    {
```

```
        area = 3.14 * side1 * side1;
```

```
        System.out.println("The Area of the Circle is: " + area);
```

```
    }
```

```
}
```

```
class ShapeMain
```

```
{
```

```
    public static void main(String args[])
```

```
    {
```

```
        Rectangle rect = new Rectangle(5, 6);
```

```
        rect.printArea();
```

```
        Triangle tri = new Triangle(5, 8);
```

```
        tri.printArea();
```

```
        Circle cir = new Circle(10);
```

```
        cir.printArea();
```

```
    }
```

```
}
```

```
The area of the Rectagle is: 30.0
The Area of the triangle is: 20.0
The Area of the Circle is: 314.0
```

## Lab 5 program:- (week 8):-

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

```
class Account
```

```
{
```

```
Scanner ss = new Scanner(System.in);
```

```
String acc_name, acc_no;
```

```
int acc_type;
```

```
double balance;
```

```
void createAccount()
```

```
{
```

```
System.out.println("Enter the Details of the new account:");
```

```
System.out.printf("Name: ");
```

```
acc_name = ss.next();
```

```
System.out.printf("Ideal Account number: ");
```

```
acc_no = ss.next();
```

```
if (acc_type == 1)
```

```
{
```

```
System.out.printf("Enter the first Deposit Value: ");
```

```
balance = ss.nextDouble();
```

```
System.out.printf("Thank you for creating an Account.");
```

```
}
```

```
else
```

```
{
```

```
System.out.printf("Enter the first Deposit Value (above 1000):");
```

```
the balance = ss.nextDouble();
```

```
System.out.printf("Thank you shortly for creating an Account. In  
you will receive your cheque book");
```

```
}
```

```
}
```



```
String get AccountNo()  
{ return acc-no; }
```

```
void Display()
```

```
{
```

```
System.out.println("The Account Details are given as follows: ");
```

```
System.out.println("Name: " + acc-name);
```

```
System.out.println("Account Number: " + acc-no);
```

```
if (acc-type == 1)
```

```
System.out.println("Account Type: Saving Accounts");
```

```
else
```

```
System.out.println("Account Type: Current Accounts");
```

```
System.out.println("Balance: " + balance);
```

```
}
```

```
}
```

```
class Sav_Acct extends Account
```

```
{
```

```
void withdraw()
```

```
{
```

```
double amount;
```

```
System.out.println("Enter the amount to be withdrawn: ");
```

```
amount = sc.nextDouble();
```

```
balance -= amount;
```

```
}
```

```
void deposit()
```

```
{
```

```
double amount;
```

```
System.out.println("Enter the amount to be Deposited: ");
```

```
amount = sc.nextDouble();
```

```
balance += amount;
```

```
}
```

```
void compound-interest()
```

```
{
```

```
byte years-of-dep;
```

```
double interest;
```

```
System.out.println("Enter the number of years of compound interest: ");
```

```
years-of-dep = sc.nextByte();
```

```
interest = (balance * Math.pow(1 + 4.5/100, years-of-dep)) - balance;
```

```
System.out.println("The compound interest is: " + interest);
```

```
}
```

```
class Curr_Acct extends Account
{
```

```
void withdraw ()
{
```

```
double amount;
```

```
System.out.println("Warning: A minimum of 5000 balance must be  
maintained in it. If failed, a penalty of Rs 100  
will be imposed.");
```

```
System.out.println("Enter the Amount to be withdrawn: ");
```

```
amount = rs.nextDouble();
```

```
balance -= amount;
```

```
penaltycheck();
```

```
}
```

```
void deposit ()
```

```
{
```

```
double amount;
```

```
System.out.println("Enter the amount to be Deposited: ");
```

```
amount = rs.nextDouble();
```

```
balance += amount;
```

```
}
```

```
void penaltycheck()
```

```
{
```

```
if (balance < 5000)
```

```
{
```

```
int pen = 100;
```

```
System.out.println("The balance is less than 5000 a penalty  
of Rs. 100 is imposed.");
```

```
balance -= pen;
```

```
}
```

```
}
```

```
}
```

class Bank

{

public static void main (String args[])

{

Sav-Acct S\_acct [] = new Sav-Acct [10];

Curr-Acct C\_acct [] = new Curr-Acct [10];

Scanner ss = new Scanner (System.in);

String acctno;

int ch, i=0, j=0;

while (true)

{

System.out.println ("Welcome to the bank.\n");

System.out.println ("Enter the action to be performed:");

System.out.println ("1: Create a Savings Account\n2: Create a Current Account");

System.out.println ("3: Deposit\n4: Withdraw\n5: Display Balance\n6: Check Compound Interest");

System.out.println ("Enter your choice:");

ch = ss.nextInt();

switch (ch)

{

case 1: S\_acct[i] = new Sav-Acct();

S\_acct[i].acc-type = 1;

S\_acct[i].CreateAccount();

i++;

break;

case 2: C\_acct[j] = new Curr-Acct();

C\_acct[j].acc-type = 2;

C\_acct[j].CreateAccount();

j++;

break;

case 3: System.out.println ("Enter the account number:");

acctno = ss.nextInt();

for (int k=0; k<j; k++)

{



```
        if (acctno.equals(C-acct[K].getAccountNo()))  
        {
```

```
            System.out.println("This Account is a current  
Account.");
```

```
            C-acct[K].deposit();
```

```
        }
```

```
    }
```

```
    for (int k=0; k<i; k++)
```

```
    {
```

```
        if (acctno.equals(C-acct[K].getAccountNo()))  
        {
```

```
            System.out.println("This Account is a current Account");
```

```
            C-acct[K].deposit();
```

```
        }
```

```
    }
```

```
    for (int k=0; k<i; k++)
```

```
    {
```

```
        if (acctno.equals(S-acct[K].getAccountNo()))  
        {
```

```
            System.out.println("This Account is a Saving Account.");
```

```
            S-acct[K].deposit();
```

```
        }
```

```
    }
```

```
    break;
```

```
case 4: System.out.println("Enter the account number: ");
```

```
acctno = ss.next();
```

```
for (int k=0; k<j; k++)
```

```
{
```

```
    if (acctno.equals(C-acct[k].getAccountNo()))  
    {
```

```
        System.out.println("This Account is a Current Account.");
```

```
        C-acct[k].withdraw();
```

```
    }
```

```
}
```



```

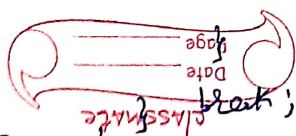
for (int k=0; k<i; k++)
{
    if (acctno.equals (s-acct[k].get Account No()))
    {
        System.out.println ("This Account is a saving Account. ");
        s-acct [k]. withdraw();
    }
}
break;
case 5: System.out.println ("Enter the account number");
acctno = ss.next ();
for (int k=0; k<j; k++)
{
    if (acctno.equals (c-acct[k].get Account No()))
        c-acct[k].Display ();
}
for (int k=0; k<i; k++)
{
    if (acctno.equals (s-acct[k].get Account No()))
        s-acct[k].Display ();
}
break;

```

```

case 6: System.out.println ("Enter the account number: ");
acctno = ss.next ();
for (int k=0; k<j; k++)
{
    if (acctno.equals (c-acct[k].get Account No()))
        System.out.println ("This is a current account. In This account
        does not provide interest ");
}
for (int k=0; k<i; k++)
{
    if (acct no.equals (s-acct[k].get Account No()))
        s-acct [k]. compound_interest ();
}

```



Welcome to the bank.

Enter the action to be performed:

- 1: Create a Savings Account
- 2: Create a Current Account
- 3: Deposit
- 4: Withdraw
- 5: Display Balance
- 6: Check Compound Interest

Enter your choice: 1

Enter the Details of the new account:

Name: Raju

Initial Account number: 12345

Enter the first Deposit Value: 2000

Thank you for creating an Account.

Welcome to the bank.

Enter the action to be performed:

- 1: Create a Savings Account
- 2: Create a Current Account
- 3: Deposit
- 4: Withdraw
- 5: Display Balance
- 6: Check Compound Interest

Enter your choice: 2

Enter the Details of the new account:

Name: Babu

Initial Account number: 67890

Enter the first Deposit Value(above 5000):

6000

Thank you for creating an Account.

You will shortly receive your Cheque Book.

Welcome to the bank.

Enter the action to be performed:

- 1: Create a Savings Account
- 2: Create a Current Account
- 3: Deposit
- 4: Withdraw
- 5: Display Balance
- 6: Check Compound Interest

Enter your choice: 4

Enter the account number:

67890

This Account is a Current Account.

Warning: A minimum of 5000 balance must be maintained

If failed, a penalty of Rs.100 will be imposed.

Enter the Amount to be withdrawn:

2000

The balance is less than 5000 a penalty of Rs.100 is imposed.

Welcome to the bank.

Enter the action to be performed:

- 1: Create a Savings Account
- 2: Create a Current Account
- 3: Deposit
- 4: Withdraw
- 5: Display Balance
- 6: Check Compound Interest

Enter your choice: 5

Enter the account number:

12345

The Account Details are given as follows:

Name: Raju

Account Number: 12345

Account Type: Savings Account

Balance: 2000.0