# Labprogram5_Execution (03/11/2020)

# Q.1) ABSTRACT CLASS SHAPE

```
import java.util.Scanner;
abstract class shape{
    double dim1,dim2;
   shape(double a, double b){
       dim1 =a;
       dim2 =b;
   }
    abstract double printarea();
}


class rectangle extends shape{
rectangle(double a, double b ){
    super(a,b);
}
    double printarea(){
     System.out.print("AREA OF RECTANGLE :");
     return dim1 * dim2;
    }
}


class triangle extends shape{
    triangle(double a, double b){
        super(a,b);
    }

    double printarea(){
        System.out.print("AREA OF TRIANGLE :");
        return dim1 * dim2/2.0;
    }
}
```

```
class circle extends shape{
    circle(double a,double b) {
    super(a,b);
    }
    double printarea(){
       System.out.print("AREA OF CIRCLE :");
        return (3.14*(dim1*dim1));
    }
}



class shapeMain{
    public static void main(String ss[]){
        rectangle r = new rectangle(10,10);
        circle c = new circle(10,0);
        triangle t = new triangle(10,10);

        System.out.println(" "+r.printarea());
        System.out.println(" "+c.printarea());
        System.out.println(" "+t.printarea());
    }
}
```

# Q.2) BANK ACCOUNT

```
import java.util.Scanner;
class bank{
    String bankname;
}

class account1 extends bank{
    Scanner sc = new Scanner(System.in);
    String name,acctype;
    double accnum;
    double saccnum,caccnum;
    double ci;
```

```
    double rate,principal,year;

    void setd(){
        System.out.print("CUSTOMER NAME :");
        name = sc.next();
        System.out.print("ACCOUNT TYPE :");
        acctype = sc.next();
        /*System.out.print("ACCOUNT NUMBER :");
        accnum = sc.nextDouble();*/
        System.out.print("SAVINGS ACC NUM : ");
        saccnum = sc.nextDouble();
        System.out.print("CURRENT ACC NUM :");
        caccnum = sc.nextDouble();
        /*System.out.println("ENTER PRINICIPAL AMOUNT :");
        principal = sc.nextDouble();
        System.out.println("RATE OF INTREST :");
        rate = sc.nextDouble();*/
    }
}

class savings extends account1{
    Scanner sc = new Scanner(System.in);
    double
deposit,withdraw,pbalance1,borrow,lend,rate1,year1,rate2,year2,ci;
    double cib,cid;
    void setd1(){
        System.out.println("\n----SAVINGS ACCOUNT----");
        System.out.print("PRESENT BALANCE :");
        pbalance1 = sc.nextDouble();
        System.out.print("DEPOSITED :");
        deposit = sc.nextDouble();
        System.out.print("WITHDRAWN :");
        withdraw = sc.nextDouble();
        pbalance1 = (pbalance1 + deposit)-(withdraw);
    }

    void compint(){
        System.out.println("\n****DETAILS OF LEND AMOUNT****");
        System.out.print("ENTER AMOUNT DEPOSITED :");
        lend = sc.nextDouble();
        System.out.print("RATE OF DEPOSITION :");
        rate1 = sc.nextDouble();
        System.out.print("NO OF YEARS DEPOSITED :");
        year1 = sc.nextDouble();
        System.out.println("\n****DETAILS OF BORROWED AMOUNT****");
        System.out.print("ENTER AMOUNT BORROWED :");
        borrow = sc.nextDouble();
        System.out.print("RATE OF BORROWED :");
        rate2 = sc.nextDouble();
        System.out.print("NO OF YEARS BORROWED :");
        year2 = sc.nextDouble();
        cib = borrow*(Math.pow(1+(rate2*0.01),year2));
        cid = lend*(Math.pow(1+(rate1*0.01),year1));
        if(cid>cib){
            ci = cid-cib;
            pbalance1 = pbalance1 + cid;
            System.out.print("\n----ACC BALANCE---- "+pbalance1);
        }
        else if(cib>cid){
            ci = cib-cid;
            pbalance1 = pbalance1 - cib;
```

```
            System.out.print("\n----ACC BALANCE---- :"+pbalance1);
        }

        else
            System.out.println("COMP INT IS ZERO AND ACCOUNT BALANCE IS
:"+pbalance1);

    }
}


class current extends account1 {
    Scanner sc = new Scanner(System.in);
    double deposit, withdraw,pbalance2,min;

    void setd2() {
        System.out.println("\n----CURRENT ACCOUNT----");
        System.out.print("PRESENT BALANCE :");
        pbalance2 = sc.nextDouble();
        System.out.print("DEPOSITED :");
        deposit = sc.nextDouble();
        System.out.print("WITHDRAWN :");
        withdraw = sc.nextDouble();
        pbalance2 = (pbalance2 + deposit) - (withdraw);
    }

    void checkmin(){
        min = 2000;
        int penalty = 500;
        if(pbalance2 >= min){
            System.out.println("MINIMUM BALANCE IS MAINTAINED AND ACC
BALANCE IS :"+pbalance2);
        }
        else if(pbalance2 < min){
            System.out.println("{MINIMUM BALANCE IS NOT MAINTAINED");
            System.out.println("SERVICE CHARGE OF"+penalty+" is
DEDUCTED}");
            System.out.println("ORIGIGNAL BALANCE :"+pbalance2);
            pbalance2 = pbalance2-penalty;
            System.out.println("AFTER DEDUCTION BALANCE :"+pbalance2);
        }
        else
            System.out.println("INVALID AMOUNT IN BANK");

    }

}

class BankMain{
    public static void main(String ss[]){
        Scanner sc = new Scanner(System.in);
        account1 a = new account1();
        savings s = new savings();
        current c = new current();
        a.setd();

        System.out.println("\nTRANSACTION DETAILS ");
        s.setd1();
        c.setd2();
        System.out.println("\n----BANK BALANCE AFTER TRANSACTIONS----");
        System.out.println("SAVINGS ACCOUNT NUM("+a.saccnum+")"+"  ->
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```
"+s.pbalance1+"Rs");
        System.out.println("CURRENT ACCOUNT NUM("+a.caccnum+")"+"   ->
"+c.pbalance2+"Rs");

        System.out.println("\n----CURRENT ACCOUNT MINIMUM BALANCE CHECK----
");
        c.checkmin();

        System.out.println("\n----INTEREST CALCULATION OF SAVINGS ACCOUNT--
--");
        s.compint();

    }
}
```