03/11/2020;

LABS

(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.println ("AREA OF RECTANGLE");
   return dim1 * dim2;
} }
```

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

 double printarea ( ) {
      System.out.println ("AREA OF TRIANGLE :");
      return  dim1* dim2 / 2 ;
    }
}

class circle extends shape {
  circle (double a, double b) {
       super (a,b);
        }
   double printarea ( ) {
    System. out. println ("AREA OF CIRCLE ");
     return  ( 3.14 * (dim1 * dim2) );
      }
   }

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

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

(5) /* 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, caccunum;
    double ci;
    double rate, principal, year;

void setd(){
    System.out.println("customer name:");
    name : sc.next();
    System.out.print("Account type :");
    acctype : sc.next();
    System.out.print("savings acc num:");
    saccnum = sc.nextDouble();
    System.out.print("current acc num:");
    caccnum = sc.nextDouble();
    }
}

class savings extends account1 {
    Scanner sc = new Scanner(System.in);
```

```
double deposit, withdraw, pbalance1, borrow
       lend, rate1, year1, rate2, year2, ci,
double cid, cib;

void lend1 (){
    System.out.println("\n---SAVINGS---");
    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    System.out.print(" WITHDRAWN : ");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("** 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 = pbalance + cid;
System.out.println("\n--AFTERBALANCE--"
                    + pbalance1);
}
```

```
else if (cid > cid) {
    ci = cid - cib;
    pbalance1 = pbalance1 - cib;
    System.out.println("\n --- Acc BAL ---:"
                        + 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.print("\n-- current --");
    System.out.print(" present balance ");
    pbalance2 = sc.nextDouble();
    System.out.print(" Deposited :");
    deposit = sc.nextDouble();
    System.out.print("withdraw");
    withdrawn = sc.nextDouble();
    pbalance2 = (pbalance2 + deposit) - withdraw;
}

void checkmain() {
    min = 2000;
    int penalty = 2000;
```

```
if (pbalance2 >= min){
System.out.Print("min bal is maintained :"+pbalance2);
}
else if (pbalance2 < min){
 System.out.Print("min bal not maintd");
 System.out.print(" penalty " + penalty);
 System.out.Print("original value :"+pbalance2);
pbalance2 = pbalance2 - penalty;
System.out.println("After d-d" bal" + pbalance2);
}
else
 system.out.println("Invalid amount in bank");
 }
}

clals 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("\n TRANSACTION DETAILS");
    s.setd1();
    c.setd2();
System.out.println("\n... Bank updated Balance");
System.out.println("savings acc num ("a.saveNum)
  "+" ---> " + s.pbalance1 "+R1);
System.out.println("current acc num ("a.caccnum)
 "+" ---> " + c.pbalance2 "+R1);
```

```
System.out.println(" ... current account
                        min balance ... ");
c.checkmain();

System.out.println(" --- INTEREST calculation
                        ---");
  s.compint();
  }
}
```