1]

Week -8

```
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
        return dim1 * dim2;
    }
}
class Triangle extends Shape {
    Triangle (double a, double b) {
      super(a, b);
    }
    double printArea() {
      return dim1 * dim2 / 2;
    }
}
class Circle extends Shape {
    Circle (double a, double b) {
      super(a, b); }
```

```
double printArea(){
    return dim1 * dim2 * dim2;
}
}

class ShapeMain{
    public static void main(String args[]){
        Rectangle r=new Rectangle(10,20);
        Triangle t=new Triangle(5,4);
        Circle c=new Circle(3.142,2);
        Shape shaperef;
        shaperef=r;
        System.out.println("Area of rectangle:"+shaperef
                                        .printArea());
        shaperef=t;
System.out.println("Area of triangle:"+shaperef.printArea());
        shaperef=c;
System.out.println("Area of circle:"+shaperef.printArea());
}
}
```

2]
```
import java.util.Scanner;
abstract class Account {
    String cName, accType;
    long accNo;
    double bal;
    final double minBal = 1000.0;

Account (String cName, long accNo, double bal,
                                    String accType){
    this.accNo = accNo;
    this.cName = cName;
    this.bal = bal;
    this.accType = accType;
  }

  abstract void addBal (double amt);
  abstract void dispBal ();
  abstract void withBal (double amt);
}
class Curr_acct extends Account {
    curr_acct (String cName, long accNo, double bal){
    super(cName, accNo, bal, "Current");
    System.out.println("name:" + cName + "\t accno:"+accNo
            + "\t bal:" + bal + "\t type:" + accType);
}
   void addBal (double amt){
     this.bal += amt; }
```

```
void dispBal(){
    System.out.println("Your Balance is:" + this.Bal);
}
void withBal(double amt){
    this.bal -= amt;
    checkBal();
}
void checkBal(){
    if(this.bal < minBal){
        this.bal -= this.bal * 0.2;
    }
}
}
class Sav_acct extends Account{
    Sav_acct(String cName, long accNo, double bal){
    super(cName, accNo, bal, "Savings");
    System.out.println("name:" + cName + "\taccno:"
                + accNo + "\tbal:" + bal +
                "\ttype:" + acctype);
    }
    void addBal(double amt){
        this.bal += amt;
        addIntr();
    }
    void addIntr(){
        this.bal += this.bal * 0.07;
    }
```

```
    void dispBal(){
        System.out.println("Your Balance is $" +this.bal);
    }
    void withBal(double amt){
        this.bal -= amt;
    }
}

class AccountMain{
    public static void main(String[] args){
    Scanner sc=new Scanner(System.in);
    Double amt;
    int flag=0;
    while(flag==0){
System.out.println("\n1: Current acc.
                    \n2: Savings acc.");
    int ch = sc.nextInt();
    switch(ch){
    case 1:
curr_acct c=new Curr_acct("Jacob",1234567,5000.0);
System.out.println("\n Current_acct\n");
    int flag1=0;
    while(flag1==0){
System.out.println("1: Add amt\n2: display Balance
                    \n3: withdraw");
    int ch1 = sc.nextInt();
    switch(ch1){
        case 1:
```

```
case 1: System.out.println("Enter amt to be added");
        amt = sc.nextDouble();
        c.addBal(amt);
        break;
case 2: c.dispBal();
        break;
case 3: System.out.println("Enter amt to be
                            withdrawn");
        amt = sc.nextDouble();
        c.withBal(amt);
        break;
default:
        flag1 = 1;
}
}
break;
case 2:
System.out.println("In Savings_acct\n");
Sav_acct s = new Sav_acct("Sean", 34567891, 4000);
int flag2 = 0;
while(flag2 == 0){
System.out.println("1: Add Bal\n2: displayBal\n3: withdraw");
int ch2 = sc.nextInt();
switch(ch2){
case 1: System.out.println("Enter amt to be added:");
amt = sc.nextDouble();
s.addBal(amt);
break;
```

```
case 2:
    s.dispBal();
    break;
case 3:
    System.out.println("Enter amt to be withdrawn:");
    amt = sc.nextDouble();
    s.withBal(amt);
    break;
default:
    flag1 = 1;
}
}
break;
default:
    flag = 1;
}
}
}
}
```