Assignment-4

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1.

```
import java.util.*;
class Student
{
    int roll,pi[]=new int[3];
    String name;
    char sex;
    void getInfo(int r,int p[],String n,char s){
        roll=r;
        for(int i=0;i<3;i++)
            pi[i]=p[i];
        name=n;
        sex=s;
    }
    int calMark(){
        int avg=0;
        for(int i=0;i<3;i++)
            avg+=pi[i];
        return(avg/3);
    }
    void showDetails(){
        System.out.println("NAME: "+name);
        System.out.println("ROLL: "+roll);
        System.out.println("SEX: "+sex);
        for(int i=0;i<3;i++)
            System.out.println("MARK"+(i+1)+": "+pi[i]);
        System.out.println("AVG MARK: "+calMark());
    }
}
class Test
{
    public static void main(String args[])
    {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the no. of students");
        int n=sc.nextInt();
        Student [] s=new Student[n];
        for(int i=0;i<n;i++){
           s[i]=new Student();
           System.out.println("Enter the details of student "+(i+1));
           System.out.println("NAME: ");
           String name=sc.nextLine();
           System.out.println("ROLL: ");
```

```
            int roll=sc.nextInt();
            System.out.println("SEX: ");
            char sex=sc.next().charAt(0);
            System.out.println("Enter three marks of student "+(i+1));
            int x[]=new int[3];
            for(int j=0;j<3;j++)
               x[j]=sc.nextInt();
            s[i].getInfo(roll,x,name,sex);
        }
        for(int i=0;i<n;i++){
            System.out.println("Details of student "+(i+1));
            s[i].showDetails();
        }
    }
}
```

2.

```
import java.util.*;
class Stack
{
    int top=-1;
    int size;
    int arr[];
    Stack(int n){
        size=n;
        arr=new int[n];
    }
    void push(int x){
        if(top==size-1)
            System.out.println("OVERFLOW");
        else
            arr[++top]=x;
    }
    int pop(){
        int ele=0;
        if(top<0)
            System.out.println("UNDERFLOW");
        else{
            ele=arr[top];
            --top;
        }
        return ele;
    }
    void traverse(){
        for(int i=0;i<=top;i++)
            System.out.print(arr[i]+" ");

}
}
class Driver
```

```
{
    public static void main(String args[])
    {
        Stack stk=new Stack(4);
        stk.push(1);
        stk.push(4);
        stk.pop();
        stk.push(3);
        stk.push(9);
        stk.traverse();
    }
}

3.
class Employee
{
    int empNo,basicSal,da,hra;
    double grossSAl;
    String empName;
    void getDetails(String name,int no,int sal,int da,int hra)
    {
        empName = name;
        empNo = no;
        basicSal = sal;
        this.da = da;
        this.hra = hra;
        calGrossSal();
    }

    void calGrossSal()
    {
        grossSAl = 0.2*basicSal + da + 0.1*hra;
    }
    void showEmpDetails()
    {
        System.out.println(empName+"\t"+empNo+"\t"+basicSal+"\t"+da+"\t"+hra+"\t"+grossSAl);
    }
}



class empDriver
{
    public static void main(String args[])
    {
        Employee emp1=new Employee();
        emp1.getDetails("Ram",1,50000,10000,5000);
        Employee emp2=new Employee();
        emp2.getDetails("Jyoti",2,70000,20000,6000);
        System.out.println("NAME\tEMPNO\tBASIC\tDA\tHRA\tGROSS");
```

```
        emp1.showEmpDetails();
        emp2.showEmpDetails();
    }
}
```

4.

```
import java.util.*;
class Item
{
    int quantity;
    double price;
    String name;
    Item(int q,double p,String n){
        quantity=q;
        price=p;
        name=n;
    }
    String getName(){
       return name;
    }
    double getPrice(){

       return price;
    }
    int getQuantity(){
        return quantity;
    }
    double getValue(){
        double value=price*quantity;
        return value;
    }
    void showDetails(){
        System.out.println("    "+name+"     "+"$"+price+"     "+quantity+"     $"+getValue()
);
    }
}
class Inventory
{
    public static void main(String args[])
    {
        Scanner sc=new Scanner(System.in);
        Item i1=new Item(15,2.25,"Stapler");
        Item i2=new Item(255,32.99,"paper");
        Item i3=new Item(9,4.75,"Binder");
        System.out.println("    "+"Name"+"     "+"Price"+"     "+"Quantity"+"     "+"Value");
        System.out.println("=============================================");
        i1.showDetails();
        i2.showDetails();
        i3.showDetails();
```

```
        System.out.println("\nTotal Inventory is
$"+(i1.getValue()+i2.getValue()+i3.getValue()));
    }
}

5.
class Addcomplex{
    int img,real;
    void getComplex(int r,int i){
        img=i;
        real=r;
    }
    void addComplex(Addcomplex A2){
        real=real+A2.real;
        img=img+A2.img;
    }
    void complex(){
        System.out.println("final complex no.: "+real+" + i"+img);
    }
}
class Driver{
 public static void main(String args[]){
    Addcomplex A1=new Addcomplex();
    Addcomplex A2=new Addcomplex();
    A1.getComplex(2,3);
    A2.getComplex(1,4);
    A1.addComplex(A2);
    A1.complex();
}
}
```