

Week 3/Lab 1

Extra Programs

1. Accept an array of size n from the user. Find the sum of even indices (i.e., 0,2,4....)

and sum of odd indices (1,3,5....) and print the same

```
import java.util.*;
```

```
class arrind
```

```
{
```

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

```
    {
```

```
        int n,sumodd=0,sumev=0;
```

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

```
        System.out.println("Enter number of elements");
```

```
        n=in.nextInt();
```

```
        int arr[]=new int[n];
```

```
        System.out.println("Enter Array");
```

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

```
        {
```

```
            arr[i]=in.nextInt();
```

```
            if(i%2==0)
```

```
                sumev+=arr[i];
```

```
            else
```

```
                sumodd+=arr[i];
```

```
        }
```

```
        System.out.println("Sum of even indices: "+sumev+"\nSum of odd indices: "+sumodd);
```

```
    }
```

```
}
```

```
C:\Users\RAJ\Desktop\c prog\Java\Week 3>javac arrind.java
C:\Users\RAJ\Desktop\c prog\Java\Week 3>java arrind
Enter number of elements
5
Enter Array
1
1
2
2
3
Sum of even indices: 6
Sum of odd indices: 3
C:\Users\RAJ\Desktop\c prog\Java\Week 3>
```

2. Accept an array of n integers. Find the number of positive numbers, negative numbers and zeros.

```
import java.util.*;
```

```
class pn0
```

```
{
```

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

```
    {
```

```
        int n,cp=0,cn=0,c0=0;
```

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

```
        System.out.println("Enter no. of terms");
```

```
        n=in.nextInt();
```

```
        int arr[]=new int[n];
```

```
        System.out.println("Enter Array");
```

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

```
        {
```

```
            arr[i]=in.nextInt();
```

```
            if(arr[i]>0)
```

```
                cp++;
```

```
            else if(arr[i]<0)
```

```
                cn++;
```

```
            else
```

```

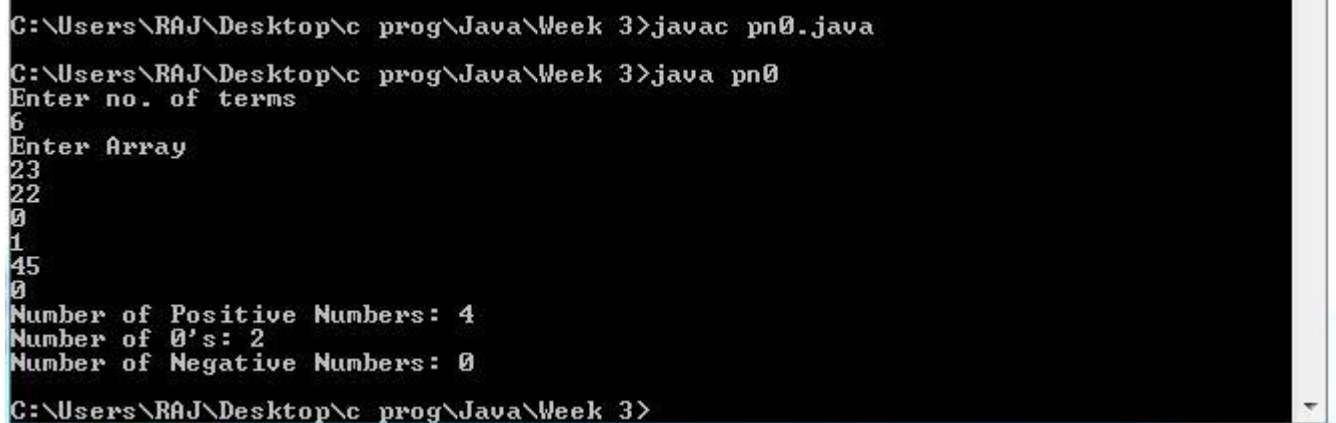
        c0++;
    }

    System.out.println("Number of Positive Numbers: "+cp+"\nNumber of 0's:
"+c0+"\nNumber of Negative Numbers: "+cn);

}

}

```



```

C:\Users\RAJ\Desktop\c prog\Java\Week 3>javac pn0.java
C:\Users\RAJ\Desktop\c prog\Java\Week 3>java pn0
Enter no. of terms
6
Enter Array
23
22
0
1
45
0
Number of Positive Numbers: 4
Number of 0's: 2
Number of Negative Numbers: 0
C:\Users\RAJ\Desktop\c prog\Java\Week 3>

```

3. Consider a super market bill. Accept a double array holding rate per item of say x items and an int array showing the quantity purchased by a customer. Calculate the total bill amount and the final bill amount after giving discounts as per the following slabs.

If the total bill amount ≥ 10000 , discount=5%

If the total bill amount ≥ 7500 and < 10000 , discount=3%

If the total bill amount ≥ 5000 , discount=2%

```
import java.util.Scanner;
```

```
public class bill
```

```
{
```

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

```
{
```

```
    int n;
```

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

double subtotal=0,rate[] = new double[10];

double total;

int quantity[] = new int[10];

System.out.println("Enter the No.of items");

    n=in.nextInt();

for(int i=0;i<n;i++)

{

    System.out.println("Enter the rate of the item");

    rate[i] = in.nextDouble();

    System.out.println("Enter the quantity of the item");

    quantity[i] = in.nextInt();

}

for(int i=0;i<n;i++)

    subtotal=subtotal+(rate[i]*quantity[i]);

System.out.println("Sub-total: "+subtotal);

if(subtotal>=10000)

    total=subtotal-(0.05*subtotal);

else if(subtotal>=7500)

    total=subtotal-(0.03*subtotal);

else if(subtotal>=5000)

    total=subtotal-(0.02*subtotal);

else

    total=subtotal;

System.out.println("Total: "+total);

}

}
```

```

C:\Users\RAJ\Desktop\c prog\Java\Week 3>javac bill.java
C:\Users\RAJ\Desktop\c prog\Java\Week 3>java bill
Enter the No.of items
3
Enter the rate of the item
1000
Enter the quantity of the item
2
Enter the rate of the item
2000
Enter the quantity of the item
2
Enter the rate of the item
1000
Enter the quantity of the item
4
Sub-total: 10000.0
Total: 9500.0
C:\Users\RAJ\Desktop\c prog\Java\Week 3>

```

4. Accept an array A of n elements. Create two new arrays where the first one say B that holds all the odd numbers from array A and the second say C holds the even numbers from array A. Display the sum, average, max and min of array C.

```
import java.util.*;
```

```
class threearravmm
```

```

{
    public static void main(String[] args)
    {
        int n,max,min,j=0,k=0;

        float avg=0;

        Scanner in=new Scanner(System.in);

        System.out.println("Enter No. Of elements");

        n=in.nextInt();

        int a[]=new int[n];

        int b[]=new int[n];

        int c[]=new int[n];

        System.out.println("Enter Array");

        for(int i=0;i<n;i++)
        {

```

```

        a[i]=in.nextInt();

        if(a[i]%2==0)

            c[k++]=a[i];

        else

            b[j++]=a[i];

    }

    int sum;;

    max=min=sum=c[0];

    for(int i=1;i<k;i++)

    {

        sum+=c[i];

        if(max<c[i])

            max=c[i];

        if(min>c[i])

            min=c[i];

    }

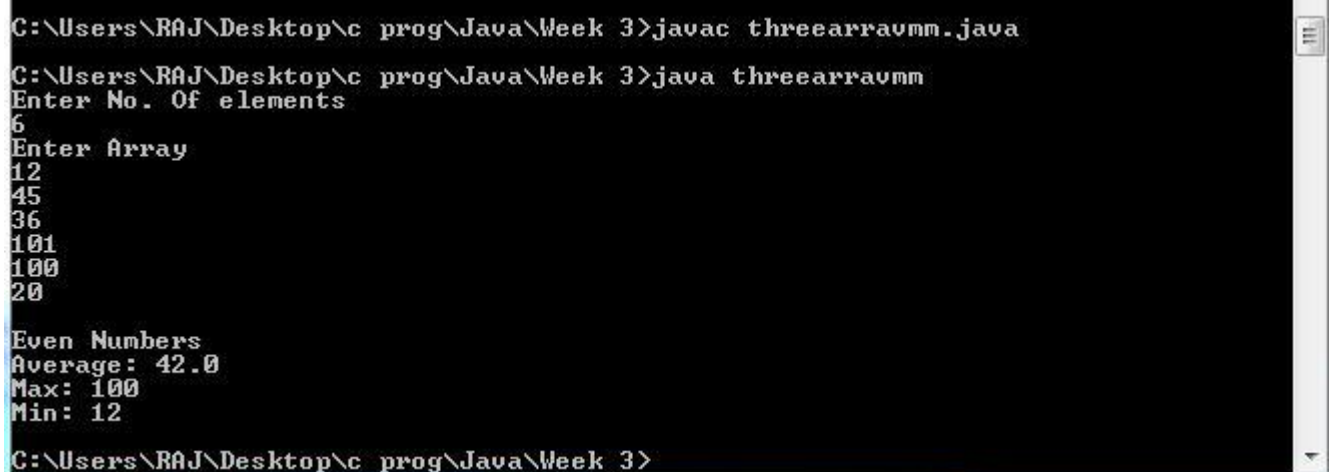
    avg=sum/(float)k;

    System.out.println("\nEven Numbers\nAverage: "+avg+"\nMax: "+max+"\nMin: "+min);

}

}

```



```

C:\Users\RAJ\Desktop\c prog\Java\Week 3>javac threearraumm.java
C:\Users\RAJ\Desktop\c prog\Java\Week 3>java threearraumm
Enter No. Of elements
6
Enter Array
12
45
36
100
100
20
Even Numbers
Average: 42.0
Max: 100
Min: 12
C:\Users\RAJ\Desktop\c prog\Java\Week 3>

```