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Branch: Information Technology **Div: D/IT1**

Course: **Object Oriented Programming using Java**

Experiment no. 2

Aim: To implement Arrays

Problem Statement 1:

You have been given an array of positive integers A1, A2,...,An with length N and you have to print an array of same length (N) where the values in the new array are the sum of every number in the array, except the number at that index.

i/p 1 2 3 4
For the 0th index, the result will be 2+3+4= 9, similarly for the second, third and fourth index the corresponding results will be 8, 7 and 6 respectively.
i/p 4 5 6
o/p 11 10 9

Code:

```
import java.util.*;
public class Array
{
	public static void main(String[] args)
	{
		Scanner obj=new Scanner(System.in);
		System.out.println("Enter size:");
		int n=obj.nextInt();
		int sum=0;
		int arr[]=new int[n];
		int temp[]=new int[n];
		System.out.println("Enter array element");
		for(int i=0;i<n;i++)
		{
			arr[i]=obj.nextInt();
		}
		System.out.println("Printing array element");
		for(int i=0;i<n;i++)
		{
			System.out.print(arr[i]+" ");
		}
		for(int i=0;i<n;i++)
		{
			sum=sum+arr[i];

		}
		for(int i=0;i<n;i++)
		{
			temp[i]=sum-arr[i];

		}
		for(int i=0;i<n;i++)
		{
			System.out.print(temp[i]+" ");
```

```
                }
        }
}
```

Output

```
C:\Users\91720\OneDrive\Desktop\Anish Java>javac Array.java

C:\Users\91720\OneDrive\Desktop\Anish Java>java Array
Enter size:
5
Enter array element
1
2
3
4
5
Printing array element
1 2 3 4 5 After process:
14 13 12 11 10
```

Problem Statement 2:

The annual examination results of 5 students are tabulated as follows:

Roll No	Subject1	Subject2	Subject3

WAP to read the data and determine the following
Total marks obtained by each student
The student who obtained the highest total marks

Code:

```
import java.util.*;
public class TwoDArray
{
	public static void main(String[] args)
	{
		Scanner obj=new Scanner(System.in);
		System.out.println("Enter row:");
		int r=obj.nextInt();
		System.out.println("Enter column:");
		int c=obj.nextInt();
		int arr[][]=new int[r][c];
		int marks[]=new int[r];
		System.out.println("Enter 2Darray element");
		int i;
		for(i=0;i<r;i++)
		{
			for(int j=0;j<c;j++)
			{
				arr[i][j]=obj.nextInt();
			}

		}
		System.out.println("Printing 2Darray element");
```

```
            for(i=0;i<r;i++)
            {
                    for(int j=0;j<c;j++)
                    {
                            System.out.print(arr[i][j]+" ");
                    }
                    System.out.println();
            }
            int pos=0;
            for(i=0;i<r;i++)
            {
                    int sum=0;

                    for(int j=1;j<c;j++)
                    {
                            sum=sum+arr[i][j];
                    }
                    marks[i]=sum;
            }
            int max=Integer.MIN_VALUE;
            for(i=0;i<r;i++)
            {
                    if(max<marks[i])
                            max=marks[i];
                            pos=i;
            }
            System.out.println("Roll number "+(i)+" got maximum marks :"+max);
        }
}
```

Output

```
C:\Users\91720\OneDrive\Desktop\Anish Java>java TwoDArray
Enter row:
5
Enter column:
4
Enter 2Darray element
1
90
98
99
2
97
98
95
3
89
97
90
4
78
98
67
5
89
99
100
Printing 2Darray element
1 90 98 99
2 97 98 95
3 89 97 90
4 78 98 67
5 89 99 100
Roll number 5 got maximum marks :290
```

Problem Statement 3:

WAP to display following pattern using irregular arrays (jagged arrays).

```
1
1 2
1 2 3 ……..
```

Code:

```
import java.util.*;

public class JaggedArray
{
	public static void main(String[] args)
	{
		Scanner obj=new Scanner(System.in);
		int row;
		System.out.println("enter row");
		row=obj.nextInt();
		int [][] jarray=new int[row][];
		for(int i=0;i<row;i++)
		{
			jarray[i]=new int[i+1];
			for(int j=0;j<=i;j++)
			{
				jarray[i][j]=j+1;
			}
		}
		for(int i=0;i<jarray.length;i++)
		{
			for(int j=0;j<jarray[i].length;j++)
			{
				System.out.print(jarray[i][j]+" ");
			}
			System.out.println();
		}
	}
}
```

Output

```
C:\Users\91720\OneDrive\Desktop\Anish Java>java JaggedArray
enter row
5
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```