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G3 (A)

Program 4 a) Develop a program to accept 5 inputs using command line argument and perform addition of the same. b) Develop programs for implementation of Arrays in JAVA(Matrix addition, subtraction and multiplication)

a) Develop a program to accept 5 inputs using command line argument and perform addition of the same.

Code:

```
public class COMMANDLINEDEMO
{
    public static void main(String args[])
    {
        int sum=0;

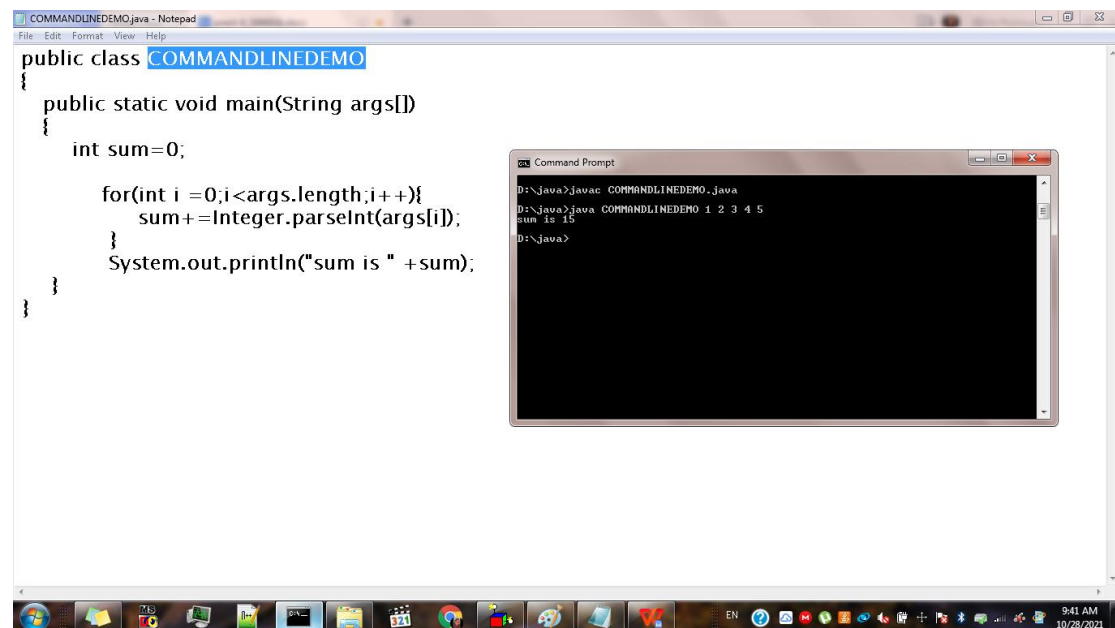
        for(int i =0;i<args.length;i++){
            sum+=Integer.parseInt(args[i]);
        }
        System.out.println("sum is " +sum);
    }
}
```

Output:

```
D:\java>javac COMMANDLINEDEMO.java
```

```
D:\java>java COMMANDLINEDEMO 1 2 3 4 5  
sum is 15
```

```
D:\java>
```



b) Develop programs for implementation of Arrays in JAVA(Matrix addition, subtraction and multiplication)

CODE

```
import java.util.Scanner;  
public class MATRIX{  
  
    public static void main(String args[]){  
  
        int a[][], b[][], c[][], i,j,k;  
  
        a = new int[3][3];
```

```
b = new int[3][3];  
c = new int[3][3];
```

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

```
System.out.println("Enter First Matrix");
```

```
for(i=0;i<3;i++){  
    for(j=0;j<3;j++){  
        a[i][j]= sc.nextInt();  
    }  
}
```

```
System.out.println("Enter Second Matrix");
```

```
for(i=0;i<3;i++){  
    for(j=0;j<3;j++){  
        b[i][j]= sc.nextInt();  
    }  
}
```

```
System.out.println("Matrix Addition: ");
```

```
for(i=0;i<3;i++){  
    for(j=0;j<3;j++){  
        c[i][j] = a[i][j] + b[i][j];  
        System.out.print(c[i][j] + "\t" );  
    }  
    System.out.println();  
}
```

```
System.out.println("Matrix Substraction: ");
```

```
for(i=0;i<3;i++){  
    for(j=0;j<3;j++){  
        c[i][j] = a[i][j] - b[i][j];  
        System.out.print(c[i][j] + "\t" );  
    }  
    System.out.println();  
}
```

```
for(i=0;i<3;i++)
```

```

{
    for(j=0;j<3;j++)
    {
        c[i][j]=0;
        for(k=0;k<3;k++)
        {
            c[i][j]=c[i][j]+a[i][k]*b[k][j];
        }
    }
}

System.out.println("Matrix Multiplication");
for(i=0;i<3;i++){
    for(j=0;j<3;j++){
        System.out.print(c[i][j] +"\t");
    }
    System.out.println();
}
}
}

```

OUTPUT:

D:\java>javac MATRIX.java

D:\java>java MATRIX

Enter First Matrix

2
2
2
2
2
2
2
2
2

2

Enter Second Matrix

1

1

1

1

1

1

1

1

1

Matrix Addition:

3 3 3

3 3 3

3 3 3

Matrix Substraction:

1 1 1

1 1 1

1 1 1

Matrix Multiplication

6 6 6

6 6 6

6 6 6

D:\java>

The screenshot shows a Java IDE (Notepad++) with a file named 'D:\java\MATRIX.java'. The code is as follows:

```
1 import java.util.Scanner;
2 public class MATRIX{
3     public static void main(String args[]){
4         int a[][] , b[][] , c[][] , i,j,k;
5         a = new int[3][3];
6         b = new int[3][3];
7         c = new int[3][3];
8         Scanner sc = new Scanner(System.in);
9         System.out.println("Enter First Matrix");
10        for(i=0;i<3;i++){
11            for(j=0;j<3;j++){
12                a[i][j]= sc.nextInt();
13            }
14        }
15        System.out.println("Enter Second Matrix");
16        for(i=0;i<3;i++){
17            for(j=0;j<3;j++){
18                b[i][j]= sc.nextInt();
19            }
20        }
21        System.out.println("Matrix Addition: ");
22        for(i=0;i<3;i++){
23            for(j=0;j<3;j++){
24                c[i][j] = a[i][j] + b[i][j];
25                System.out.print(c[i][j] + "\t" );
26            }
27            System.out.println();
28        }
29        System.out.println("Matrix Substraction: ");
30    }
31 }
```

The Command Prompt window shows the following output:

```
D:\java>javac MATRIX.java
D:\java>java MATRIX
Enter First Matrix
3
3
3
3
3
3
3
3
3
Enter Second Matrix
1
1
1
1
1
1
1
1
1
Matrix Addition:
3 3 3
3 3 3
3 3 3
Matrix Substraction:
1 1 1
1 1 1
1 1 1
Matrix Multiplication
6 6 6
6 6 6
6 6 6
D:\java>
```