Assignment No. 03

1)WAP to add two Matrix

```
import java.util.Scanner;


class Q1
{
	public static void main(String args[])
	{
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter Matrix 1 elements: ");

		int a[][] = new int[3][3];

		for(int i=0; i<=2; i++)
		{
			for(int j=0; j<=2; j++)
			{
				a[i][j]=sc.nextInt();
				System.out.print(a[i][j]+" ");
			}
			System.out.println();
		}

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

		System.out.println("Enter Matrix 2 elements: ");
		for(int i=0; i<=2; i++)
		{
			for(int j=0; j<=2; j++)
			{
				b[i][j]=sc.nextInt();
				System.out.print(b[i][j]+" ");
			}
			System.out.println();
		}
```

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

                System.out.println("Sum of Matrix 1 and Matrix 2: ");
                for(int i=0; i<=2; i++)
                {
                        for(int j=0; j<=2; j++)
                        {
                                c[i][j] = a[i][j] + b[i][j];
                                System.out.print(c[i][j]+" ");
                        }
                        System.out.println();

                }

        }
}
```

2)WAP to multiply two Matrix

```
import java.util.Scanner;


class Q2
{
	public static void main(String args[])
	{
		Scanner sc =  new Scanner(System.in);
		System.out.println("Enter the number of rows:");
		int n = sc.nextInt();

		int a[][] = new int[n][n];
		int b[][] = new int[n][n];
		int c[][] = new int[n][n];
		int i, j, k;

		System.out.println("Enter the elements of Matrix 1: ");
		for(i=0; i<n; i++)
		{
			for(j=0; j<n; j++)
			{
				a[i][j] = sc.nextInt();
				System.out.print(a[i][j]+" ");
			}
			System.out.println();
		}

		System.out.println("Enter the elements of Matrix 2: ");
		for(i=0; i<n; i++)
		{
			for(j=0; j<n; j++)
			{
				b[i][j] = sc.nextInt();
				System.out.print(b[i][j]+" ");
			}
			System.out.println();
```

```
                }

                //c[i][j] = 0;
                System.out.println("After multiplication: ");
                for(i=0; i<n; i++)
                {
                        for(j=0; j<n; j++)
                        {
                                for(k=0; k<n; k++)
                                {
                                        c[i][j]=c[i][j]+(a[i][k]*b[k][j]);
                                }
                        }
                }

                for(i=0;i<n;i++)
                {
                        for (j=0;j<n;j++)
                        {
                    System.out.print(c[i][j]+" ");

                   }
                        System.out.println();
                }

        }
}
```

3)WAP to subtract two Matrix

```
import java.util.Scanner;


class Q3
{
	public static void main(String args[])
	{
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter Matrix 1 elements: ");

		int a[][] = new int[3][3];

		for(int i=0; i<=2; i++)
		{
			for(int j=0; j<=2; j++)
			{
				a[i][j]=sc.nextInt();
				System.out.print(a[i][j]+" ");
			}
			System.out.println();
		}

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

		System.out.println("Enter Matrix 2 elements: ");
		for(int i=0; i<=2; i++)
		{
			for(int j=0; j<=2; j++)
			{
				b[i][j]=sc.nextInt();
				System.out.print(b[i][j]+" ");
			}
			System.out.println();
		}
```

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


                System.out.println("Subtraction of Matrix 1 and Matrix 2: ");
                for(int i=0; i<=2; i++)
                {
                        for(int j=0; j<=2; j++)
                        {
                                c[i][j] = a[i][j] - b[i][j];
                                System.out.print(c[i][j]+" ");
                        }
                        System.out.println();


                }

        }
}
```

4)WAP to print from table 1 to 30

```
class Q4
{
	public static void main (String args[])
	{
		int arr[][] = new int[30][10];


		for (int i=0;i<arr.length;i++)
		{
			for (int j=0;j<arr[i].length;j++)
			{
				arr[i][j]=(i+1)*(j+1);
				System.out.print(arr[i][j]+"  ");
			}
			System.out.println();
		}
	}
}
```

5)WAP to print transpose of a matrix

```
import java.util.Scanner;


class Q5
{
	public static void main(String args[])
	{
		Scanner sc = new Scanner(System.in);
		int a[][] = new int[3][3];
		int b[][] = new int[3][3];
		int i, j, k;

		System.out.println("Enter the matrix 1 elements:");
		for(i=0; i<=2; i++)
		{
			for(j=0; j<=2; j++)
			{
				a[i][j] = sc.nextInt();

			}
		}

		System.out.println("Matrix 1:");
		for(int [] x:a)
		{
			for(int y:x)
			{
				System.out.print(y+ "  ");
			}
			System.out.println();
		}

		for(i=0; i<=2; i++)
		{
			for(j=0; j<=2; j++)
			{
```

```
                        b[i][j] = a[j][i];
                }
        }

        System.out.println("Transpose Matrix:");
        for(int [] x:b)
        {
                for(int y:x)
                {
                        System.out.print(y+ "  ");
                }
                System.out.println();
        }

    }
}
```