//To print the largest and the second largest elements in a 2D matrix Aswin Asok

```
import java.util.Scanner;
public class Matix_Large
{
   public static void main(String args[])
   {
      Scanner br = new Scanner(System.in);
      System.out.println("Enter the value for n");
      int n = br.nextInt();

      if(n<20) //Checking whether the index values are within range
      {

         int a[][] = new int[n][n]; //creating 2D array

         System.out.println("Enter the elements for the matrix");
         for(int i=0; i<n ;i++) //Storing values into array
         {
            for(int j=0; j<n ;j++)
            {
               a[i][j] = br.nextInt();
            }
         }

         System.out.println("\nORIGINAL MATRIX"); //Printing the Original Matrix
         for(int i=0; i<n ;i++)
         {
            for(int j=0; j<n ;j++)
            {
               System.out.print(a[i][j]+" ");
            }
            System.out.println();
         }

         int largest = 0;
         int lrow = 0;//To store the row index of the largest number
         int lcolumn = 0; //To store the column index of the largest number

         for(int i=0; i<n ;i++) //Finding the largest element in the Matrix
         {
            for(int j=0; j<n ;j++)
            {
               if(a[i][j] > largest)
```

```
                {
                    largest = a[i][j];
                    lrow = i;
                    lcolumn = j;
                }
            }
        }

        int slargest = 0;
        int slrow = 0;//To store the row index of the second largest number
        int slcolumn = 0; //To store the column index of the second largest number
        for(int i=0; i<n ;i++) //Find the Second largest element in the Matrix
        {
            for(int j=0; j<n ;j++)
            {
                if(a[i][j] > slargest && a[i][j] < largest)
                {
                    slargest = a[i][j];
                    slrow = i;
                    slcolumn = j;
                }
            }
        }

        //Printing the largest and the second largest number in the Matrix
        System.out.println("\nLargest Number: "+largest+", at index ["+lrow+"]["+lcolumn+"]");
        System.out.println("Second Largest Number: "+slargest+", at index
["+slrow+"]["+slcolumn+"]");
      }
      else
      {
        System.out.println("Range out of bounds");
      }

   }
}
```

OUTPUT

```
Enter the value for n
4
Enter the elements for the matrix
16
15
```

1
2
6
4
10
14
9
8
12
5
3
7
11
13

ORIGINAL MATRIX
16 15 1 2
6 4 10 14
9 8 12 5
3 7 11 13

Largest Number: 16, at index [0][0]
Second Largest Number: 15, at index [0][1]