Write a Java Program to determine whether a given matrix is a sparse matrix

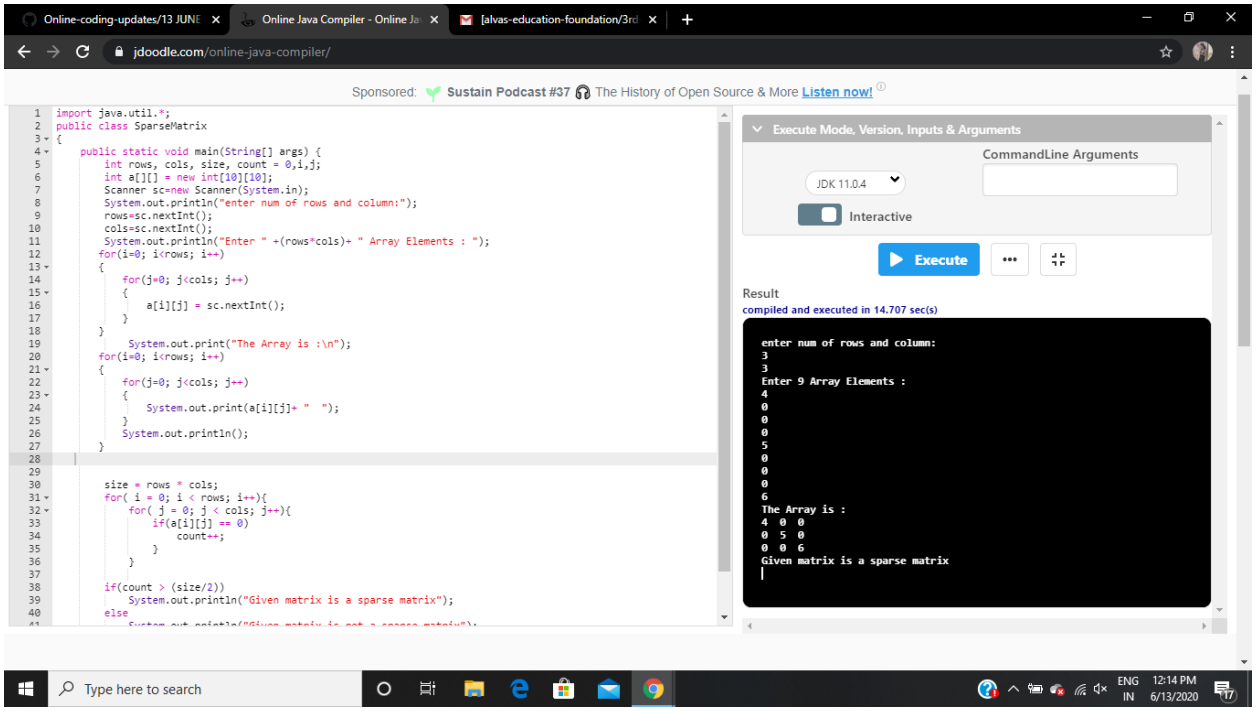
```
import java.util.*;
public class SparseMatrix
{
   public static void main(String[] args) {
      int rows, cols, size, count = 0,i,j;
      int a[][] = new int[10][10];
      Scanner sc=new Scanner(System.in);
      System.out.println("enter num of rows and column:");
      rows=sc.nextInt();
      cols=sc.nextInt();
      System.out.println("Enter " +(rows*cols)+ " Array Elements : ");
     for(i=0; i<rows; i++)
     {
        for(j=0; j<cols; j++)
        {
           a[i][j] = sc.nextInt();
        }
     }
         System.out.print("The Array is :\n");
     for(i=0; i<rows; i++)
     {
        for(j=0; j<cols; j++)
        {
           System.out.print(a[i][j]+ "  ");
```

```
        }
        System.out.println();
      }



      size = rows * cols;
      for( i = 0; i < rows; i++){
         for( j = 0; j < cols; j++){
            if(a[i][j] == 0)
               count++;
            }
         }

      if(count > (size/2))
         System.out.println("Given matrix is a sparse matrix");
      else
         System.out.println("Given matrix is not a sparse matrix");
   }
}
```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public static void main(String[] args) {
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System.out.println("Enter " +(rows*cols)+ " Array Elements : ");
for(i=0; i<rows; i++)
{
for(j=0; j<cols; j++)
{
a[i][j] = sc.nextInt();
}
}
System.out.print("The Array is :\n");
for(i=0; i<rows; i++)
{
for(j=0; j<cols; j++)
{
System.out.print(a[i][j]+ " ");
}
System.out.println();
}
size = rows * cols;
for(i = 0; i < rows; i++){
for(j = 0; j < cols; j++){
if(a[i][j] == 0)
count++;
}
}
if(count > (size/2))
System.out.println("Given matrix is a sparse matrix");
else
Execute Mode, Version, Inputs & Arguments
CommandLine Arguments
JDK 11.0.4
Interactive
Execute
Result
compiled and executed in 14.707 sec(s)
enter num of rows and column:
3
3
Enter 9 Array Elements :
4
0
0
0
5
0
0
0
6
The Array is :
4 0 0
0 5 0
0 0 6
Given matrix is a sparse matrix
Type here to search
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