

EEM 480 HW3

The Interface for this homework is given as :

```
public interface HW3_Interface {  
    public void ReadShapeFile(String path); // Read shape file data  
    public void OutputShapes();  
    public void OutputShapesToFile(String path);  
}
```

The figure shows shapes made up of pixels that do not touch each other from corners or edges. You are asked to write a program that will allow you to find out how many shapes there are and how these shapes are formed. In this program design a class of name "Shape" which implements the HW3_Interface.

| | | | | | | | | | | | | | |
|---|---|---|---|--|--|---|---|---|---|---|---|---|--|
| * | * | * | * | | | | | | | | | * | |
| | * | * | | | | | | | | | | | |
| | * | * | | | | | | | | | | | |
| | | | * | | | | | | | | | | |
| | | | | | | | | * | * | | | | |
| | | | | | | * | * | * | * | | | | |
| | | | | | | * | | * | * | | * | | |
| | * | * | | | | * | * | * | * | | * | | |
| * | * | * | * | | | | | | | * | | | |
| * | | | * | | | | | | | | | | |
| * | | | * | | | | | | | | | | |

The file HW3Q2.txt will be given as:

```
11110000000010  
01100000000000  
01100000000000  
00010000000000  
00000000110000  
00000011110000  
00000010110000  
01100011110000
```

1 1 1 1 0 0 0 0 0 0 1 0 0 0

1 0 0 1 0 0 0 0 0 0 0 0 0 0

1 0 0 1 0 0 0 0 0 0 0 0 0 0

ReadShapeFile(String path) will be used to read a file as given above.

If OutputShapes() has been run, the output will be seen on screen as :

There are four shapes

Shape 1

* * * *

* *

* *

*

Shape 2

*

Shape 3

* *

* * * *

* * * *

* * * *

*

Shape 4

* *

* * * *

* *

* *

If OutputShapestoFile() has been run the same output given in above example will be written on the file

Rules for HW Submission

- . You have to write your HW in NetBeans environment.
- . You have to write a report with name "**Report_HW3.pdf**" explaining your HW (purpose, how did you solve it, algorithm etc.) and what you the environment you used (NetBeans, for example). The person who read your report can easily use the class you have written.
- . Discuss the result you have obtained.
- . Submission should be in the form of a zip. When extracted, the result should be a single folder with the name "HW3".
- . Don't forget to put your report into the zip file.
- . The name of your project will be "**Name_Surame_HW3**". e.g. *Lutfullah_Arici_HW3*. **If you do not obey the rule I will not grade your homework.**
- . You have to bundle your whole project folder into your HW3.zip file.
- . If I extract your project file, then import to my environment and if it doesn't work, you will be graded on 30 not 100. (Double check. It saves life)
- . Do HW by yourself. Be honest.