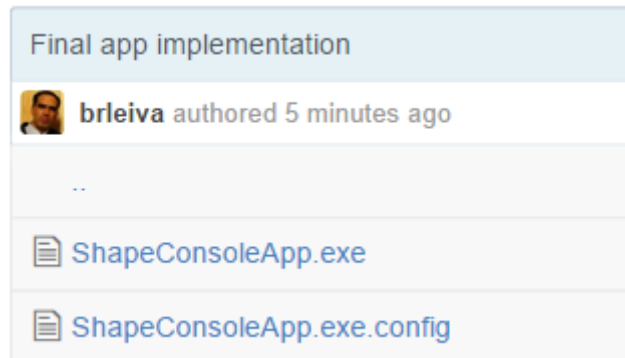


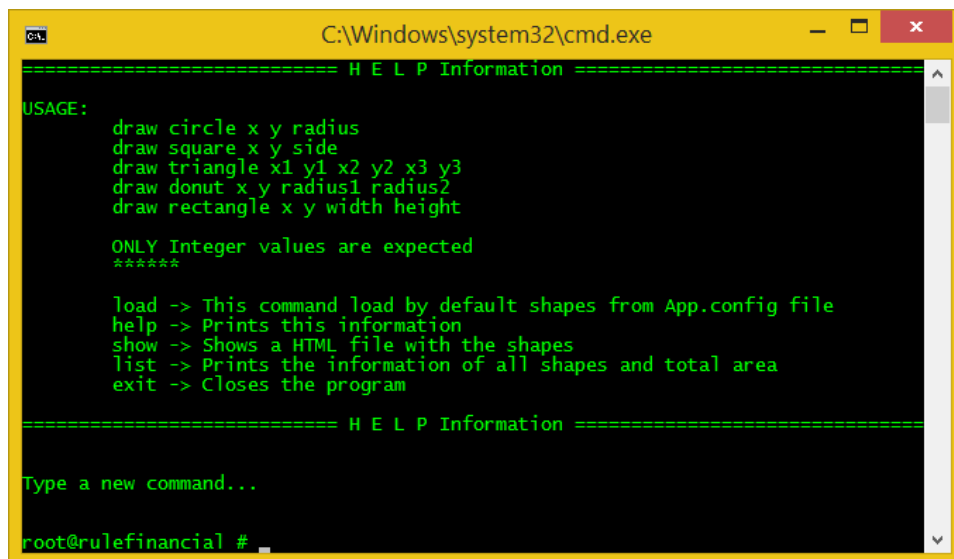
## Programming Exercise – (Resolution by Berman Romero)

1. Source code at:  
[https://github.com/brleiva/RF\\_InterviewApp/tree/master/ShapeConsoleApp](https://github.com/brleiva/RF_InterviewApp/tree/master/ShapeConsoleApp)  
(Visual Studio 2013 solution)  
Main files: *ShapeModels.cs* & *ShapeProgram.cs*
2. Compiled program (.EXE) at:  
[https://github.com/brleiva/RF\\_InterviewApp/tree/master/CompiledProgram](https://github.com/brleiva/RF_InterviewApp/tree/master/CompiledProgram)



Please download both files: *ShapeConsoleApp.exe* & *ShapeConsoleApp.exe.config*

3. Start the Console App, then enter **help** command:



```
C:\Windows\system32\cmd.exe

===== H E L P Information =====
USAGE:
  draw circle x y radius
  draw square x y side
  draw triangle x1 y1 x2 y2 x3 y3
  draw donut x,y radius1 radius2
  draw rectangle x y width height

  ONLY Integer values are expected
  *****

  load -> This command load by default shapes from App.config file
  help -> Prints this information
  show -> Shows a HTML file with the shapes
  list -> Prints the information of all shapes and total area
  exit -> Closes the program

===== H E L P Information =====

Type a new command...

root@rulefinacial #
```

4. Enter some command, for ex: **load** and then **show**

5. When a shape is inside of another shape a yellow message appears:

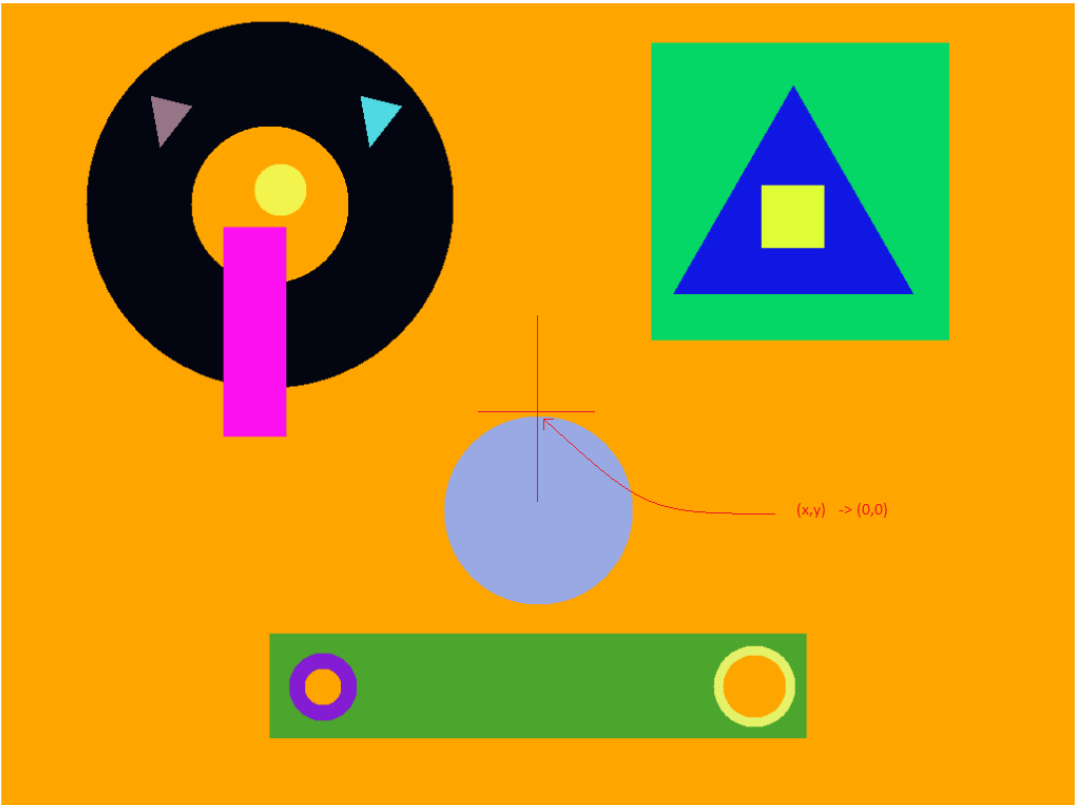
```
C:\Windows\system32\cmd.exe

AREA: 314159.3
=> Triangle Id: 1889628519 at (x,y) points: (-370,296), (-361, 246), (-330, 286)













AREA: 955
NOTE: This shape is inside of:
Shape -> Donut (Id:1450954651)
=> Triangle Id: 1363951160 at (x,y) points: (-170,296), (-161, 246), (-130, 286)

AREA: 955
NOTE: This shape is inside of:
Shape -> Donut (Id:1450954651)
=> Circle Id: 697938490 with centre at (x,y): (-246,206) and radius: 50
AREA: 7853.981
=> Rectangle Id: 1601758694 at (x,y): (-300,170), width: 60 and height:200
AREA: 12000
```

6. HTML example result: (command: show)



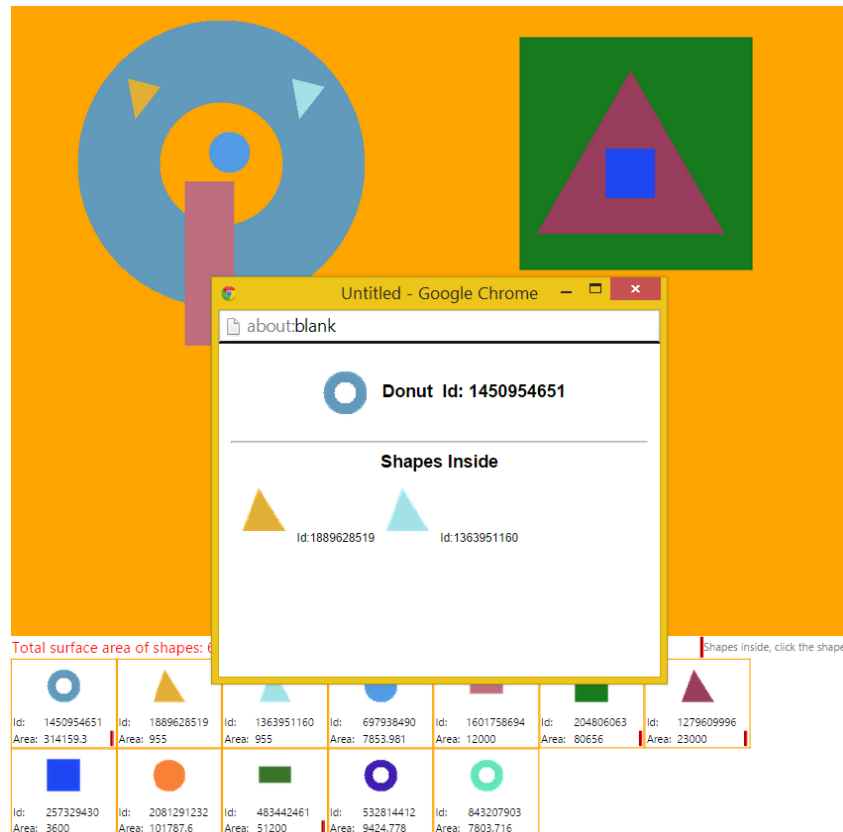
Total surface area of shapes: 613395.33 Shapes inside, click the shape!

						
Id: 30359728 Area: 314159.3	Id: 1265710184 Area: 955	Id: 846909956 Area: 955	Id: 2043824433 Area: 7853.981	Id: 2114824291 Area: 12000	Id: 43701727 Area: 80656	Id: 148977233 Area: 23000
						
Id: 1882636287 Area: 3600	Id: 1284784747 Area: 101787.6	Id: 637600529 Area: 51200	Id: 1098967933 Area: 9424.778	Id: 1921339076 Area: 7803.716		

7. Shapes inside: When a shape is inside of another shape you can see one indication like that: (click in the shape to see the shapes inside)



Ex:



8. Configuration file:

There is two options to set if you want.

- a) Default shapes like: (no spaces after comma)

*draw circle -246 206 50,draw triangle -170 296 -161 246 -130 286*

- b) Turn off/on algorithm to determine if a shape is inside of another.

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>
  <startup>
    <supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.5" />
  </startup>

  <appSettings>
    a) <add key="SHAPES_LIST" value="draw donut -256 192 150 350,draw triangle -370 296 -361 246 -330 286,draw triangle -170 296
    b) <add key="CHECK_INSIDE_SHAPES" value="True"/>
  </appSettings>

</configuration>
```