

Code Puzzle

General Instructions

Complete the following puzzle in C# as either a web, mobile, or desktop application. If building a web or mobile application, feel free to show off your JavaScript skills. Your completed solution must be able to be built with Visual Studio 2017 without additional software or commercial add-ons (*NuGet* packages are allowed).

All code should be considered ready for production!

Problem Statement

Write a program that lets the user generate a shape with the dimensions of their choosing using a semi-natural language interface. Your solution must have two components – a ‘front-end’ and a ‘back-end’.

User Story

As a user I want to generate shapes with natural language so that I don't have to enter values in boxes.

Acceptance Criteria

The user should specify what to draw using natural language. To keep things simple, we'll fix the allowed format to the following:

Draw a(n) <shape> with a <measurement> of <amount> [and a(n) <measurement> of <amount>]

Here are some examples:

Draw a circle with a radius of 100
Draw a square with a side length of 200
Draw a rectangle with a width of 250 and a height of 400
Draw an octagon with a side length of 200
Draw an isosceles triangle with a height of 200 and a width of 100

The following shapes should be supported:

- Isosceles Triangle
- Scalene Triangle
- Equilateral Triangle
- Rectangle
- Square
- Parallelogram
- Pentagon
- Hexagon
- Heptagon
- Octagon
- Circle
- Oval

The input parsing should happen in the back-end.

Once the user enters the information, the shape should be displayed on the screen.

Distances are in pixels.

Bonus

Provide the necessary files/scripts to enable your solution to be executed as a *docker* container. You can assume that the hosting environment already has *docker* installed.

Submission

Create a public *Bitbucket* or *GitHub* repository containing your solution and share the link to it with us.