

CSC 240

Computer Graphics

Sara Mathieson
Fall 2016
Smith College

Outline: 10/12

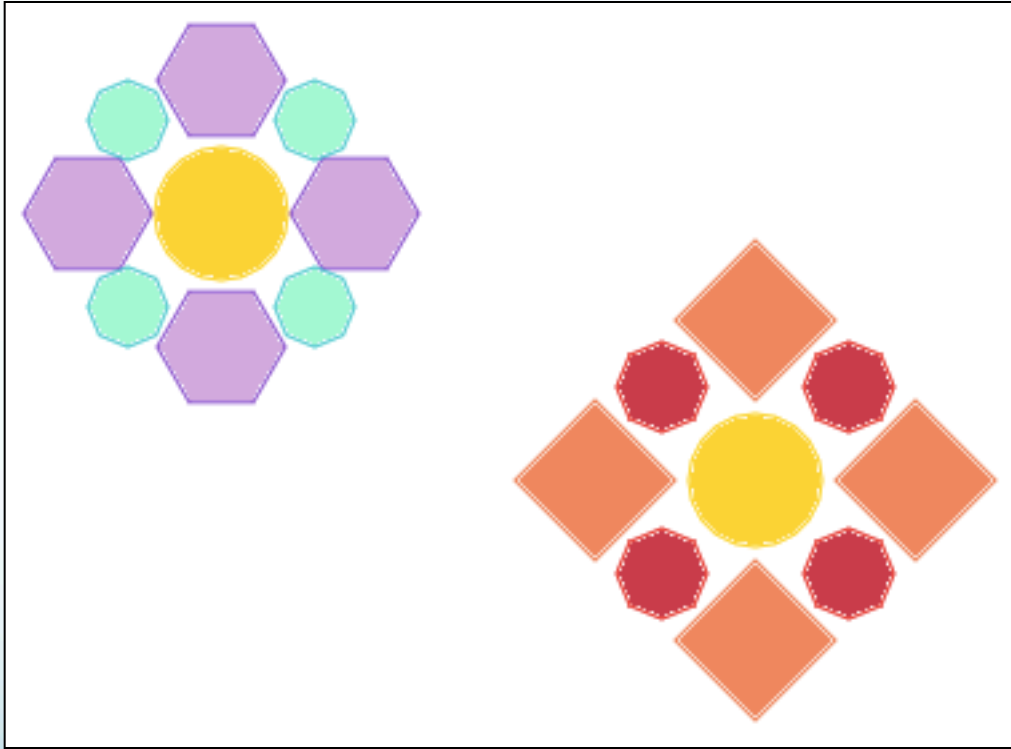
- Homework 2 Demos
- Begin: Curves
- Lab 4

Review Session:
Sunday Oct 16 at 4pm

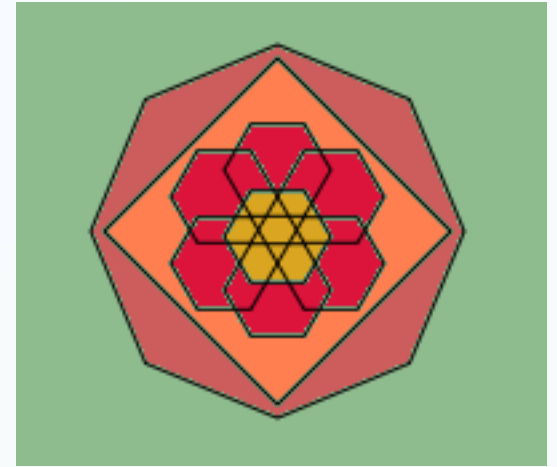
Office Hours
Extra office hours!
Thursday 5-6pm (355 Ford)

HW 4 due Friday
(extended one day)

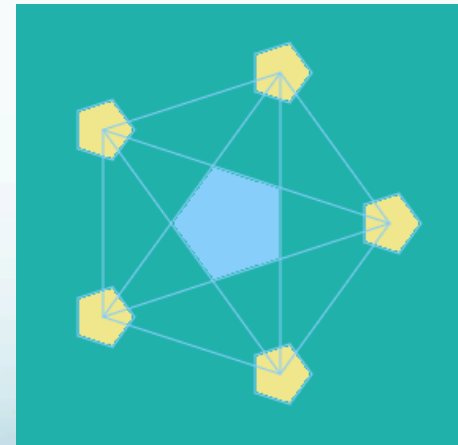
Homework 2 Examples



Ali and Claire



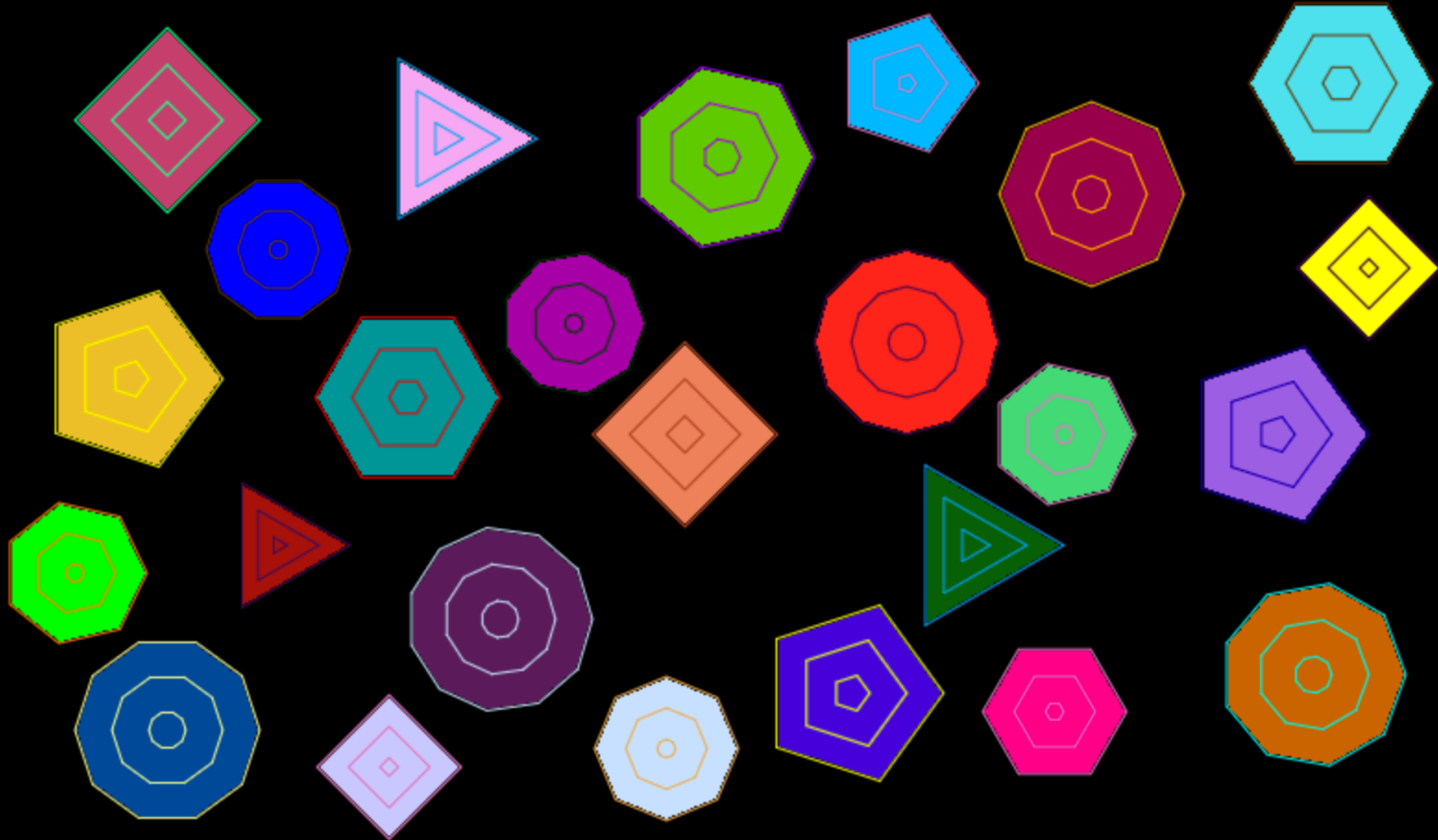
Habiba



Yueyu

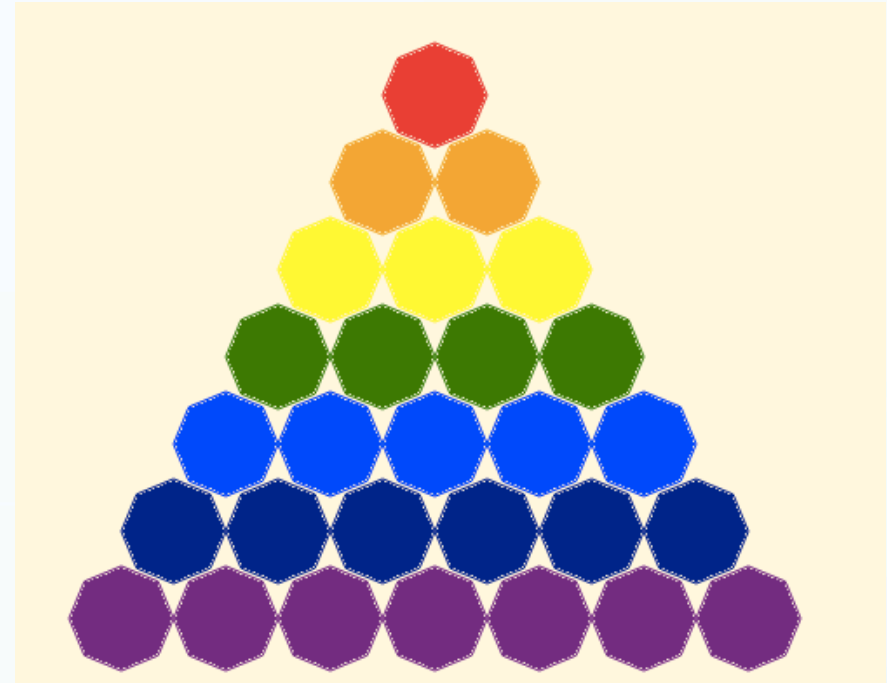
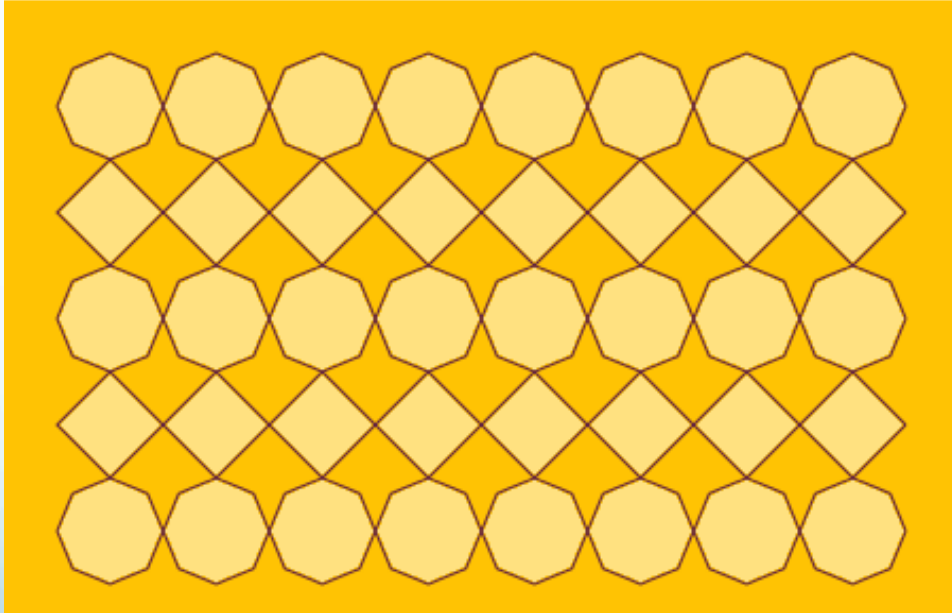
Homework 2 Examples

Emmely



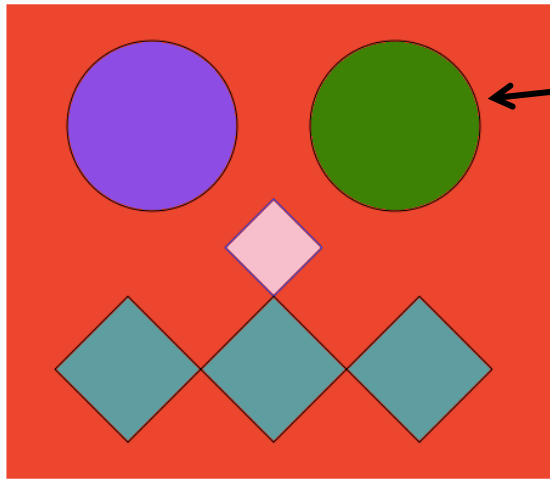
Homework 2 Examples

Jiamin



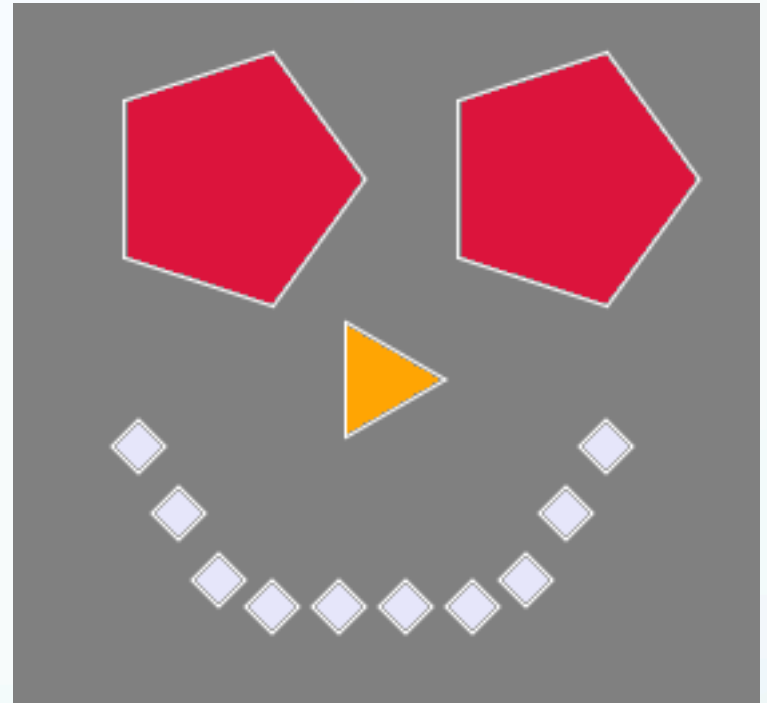
Ji Young

Homework 2 Examples

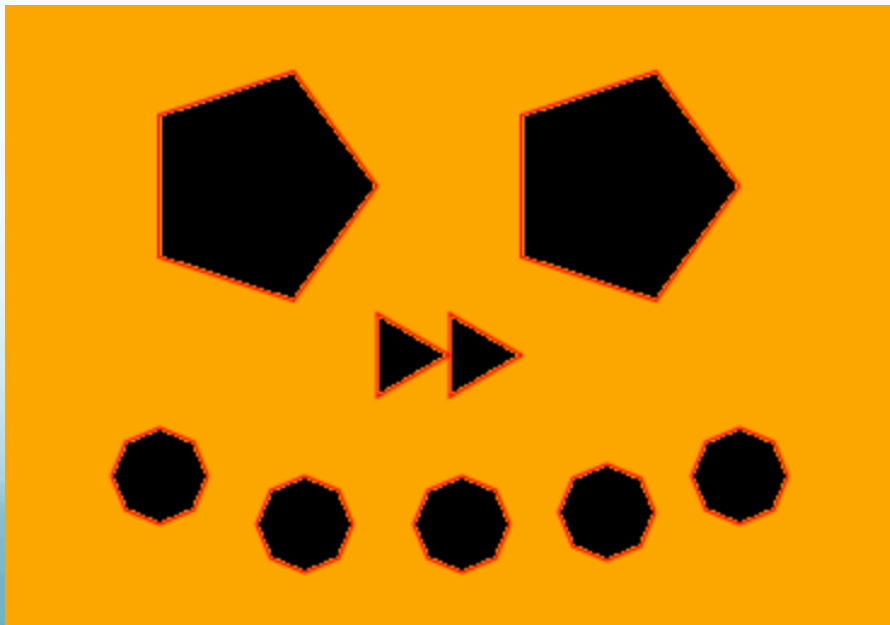


100 sided polygons

Prayasha



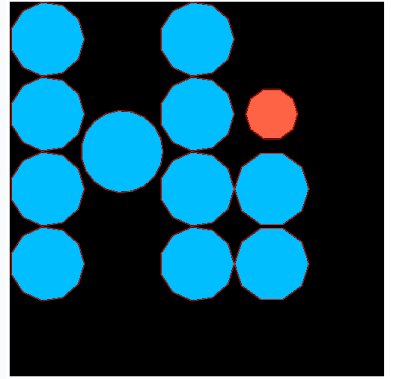
Jenny



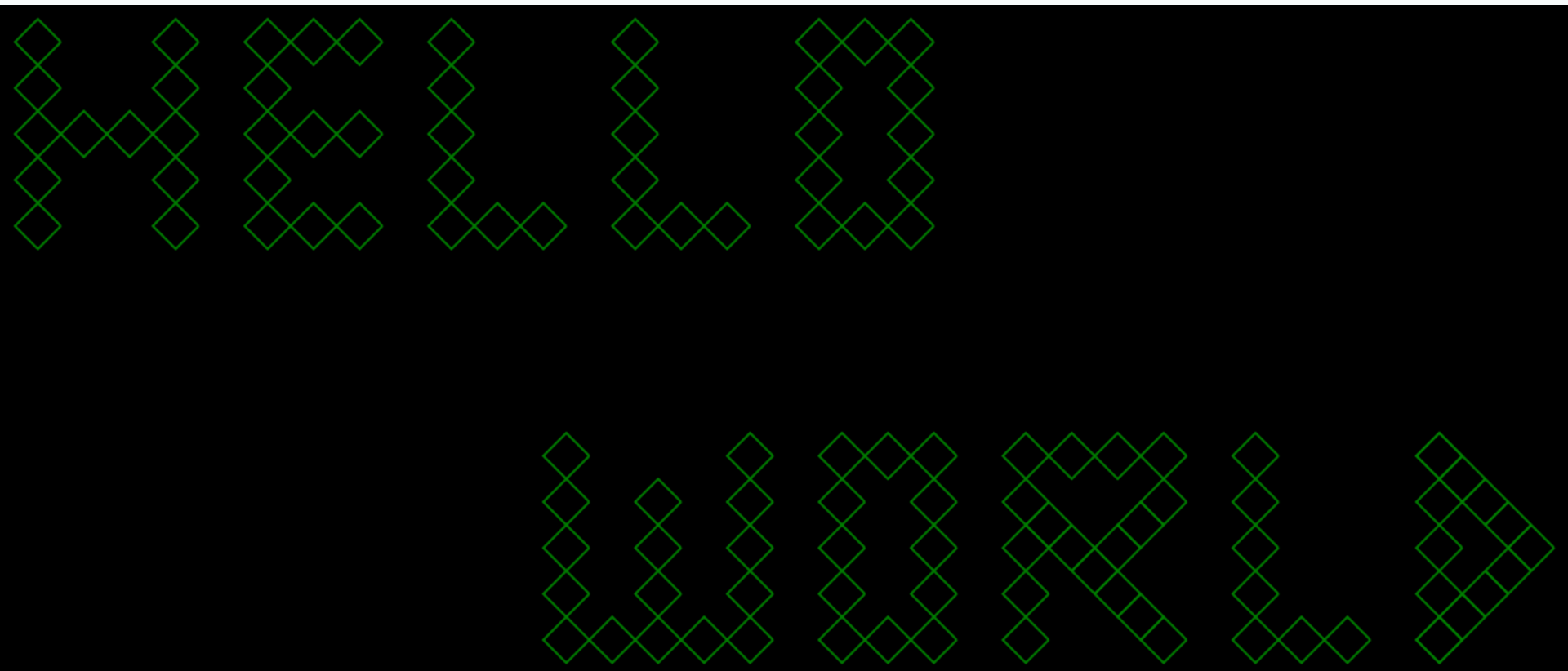
Perla

Homework 2 Examples

Darpan



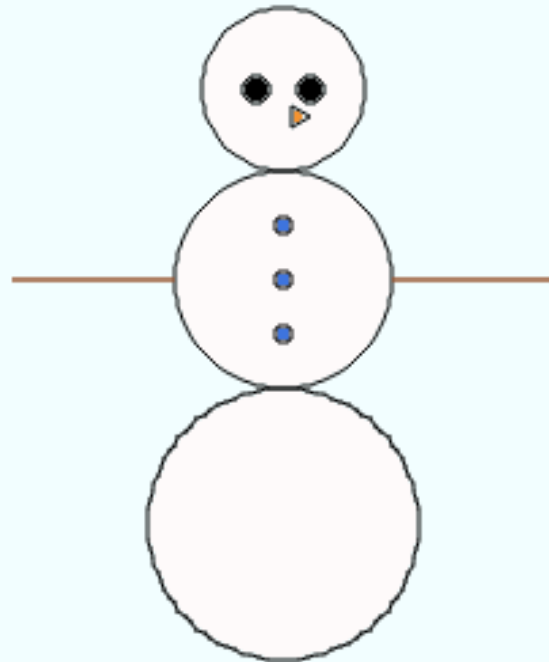
Stephanie



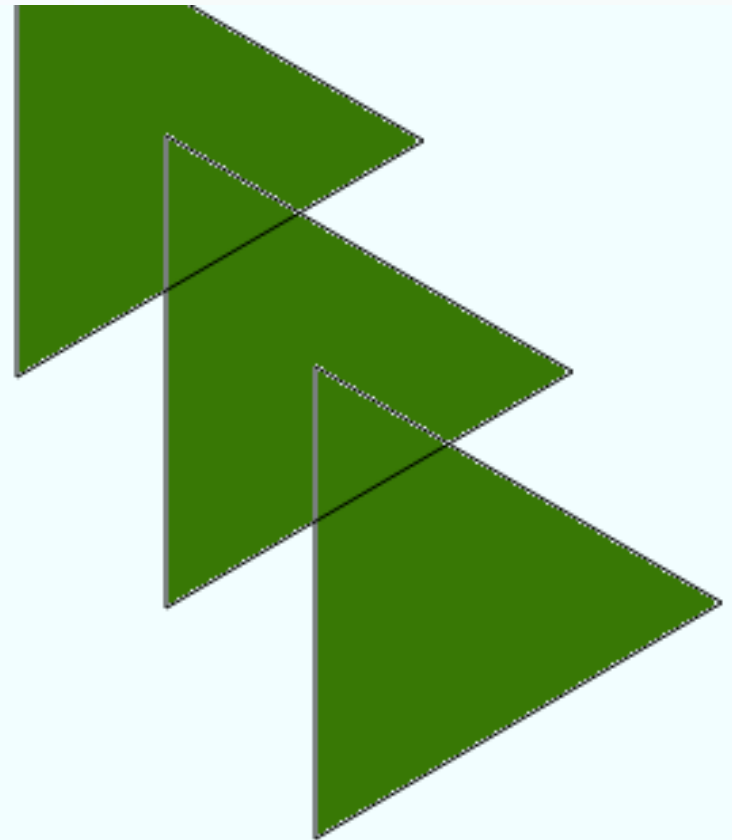
Homework 2 Examples



Lauren

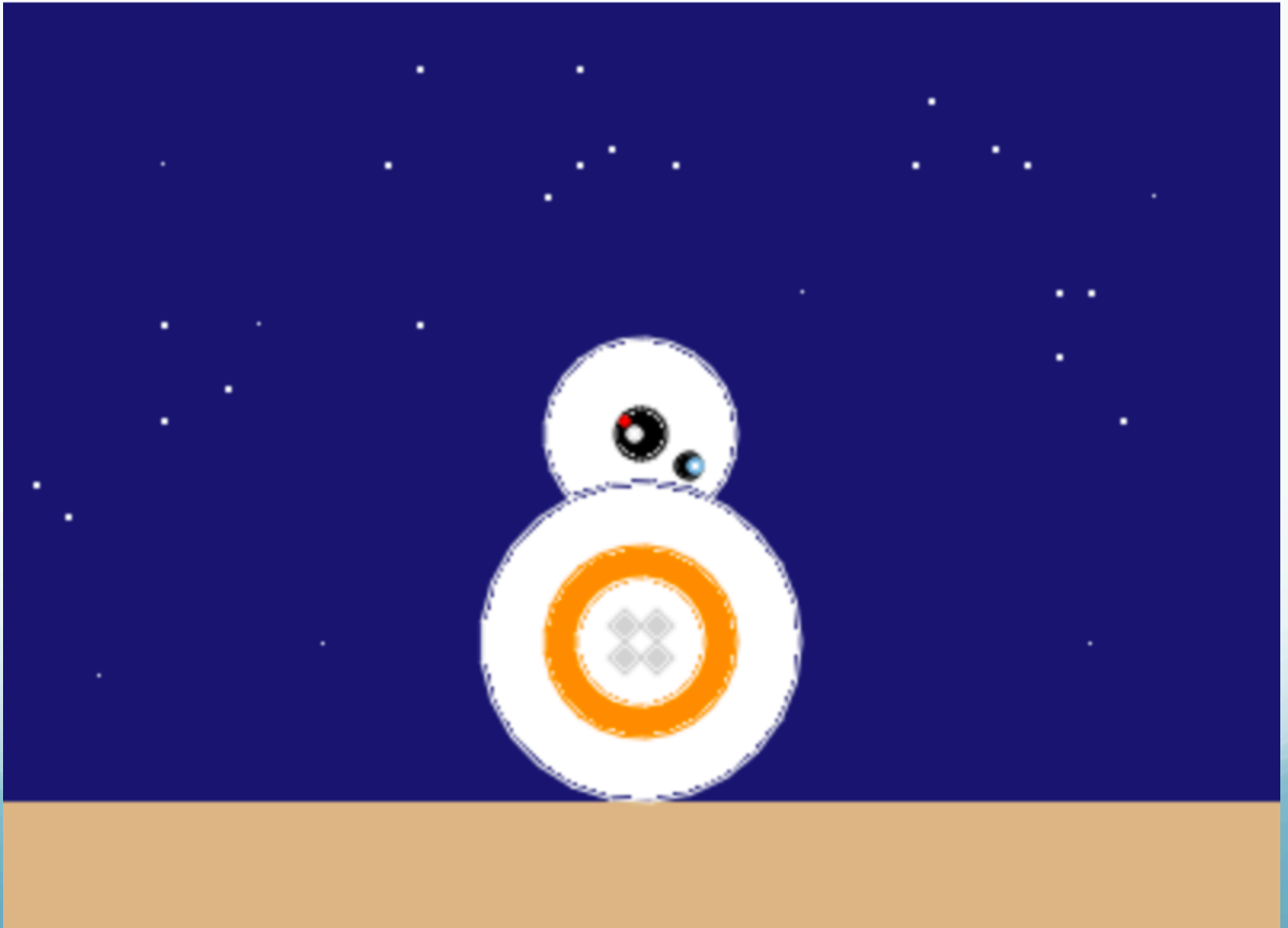


Tinli



Homework 2 Examples

BB-8 by Alex and Miriam



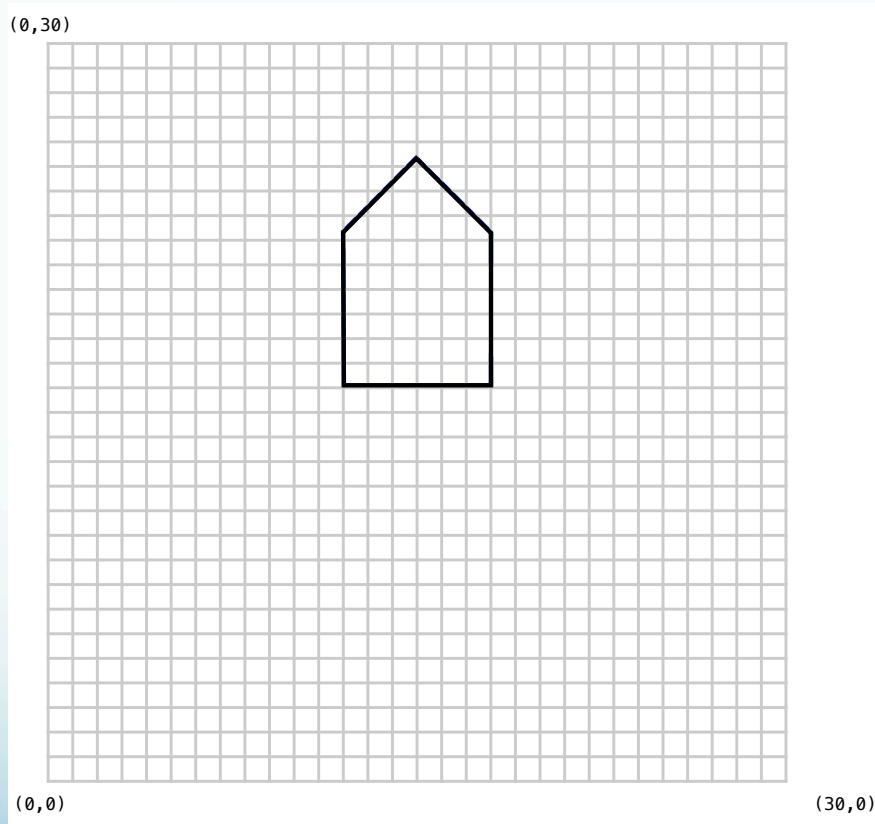
Homework 2 Animation Demos

Homework 2 Recursive Analysis

- Almost everyone could draw larger polygons on Safari vs. Chrome
- Chrome, maximum radius around **92, 108**
- Safari, maximum radius around **130, 142**

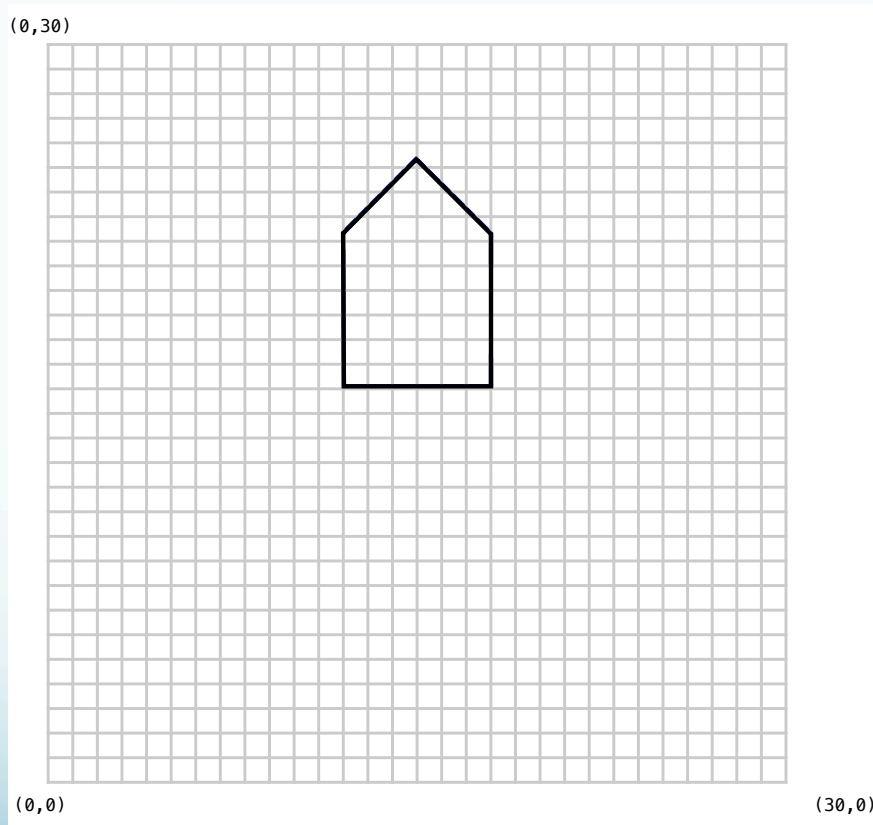
Handout 3

5. **Composition:** What transformations could we apply to the house below to rotate it 25 degrees about its center?



Handout 3

5. **Composition:** What transformations could we apply to the house below to rotate it 25 degrees about its center?

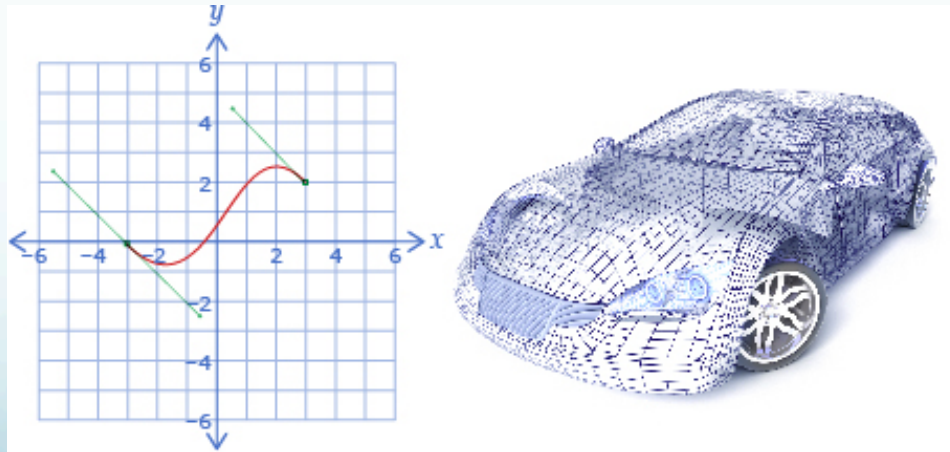


```
translate(15,20)  
rotate(25 deg)  
translate(-15,-20)  
house()
```

Next Topic:
Curves

Bézier Curves

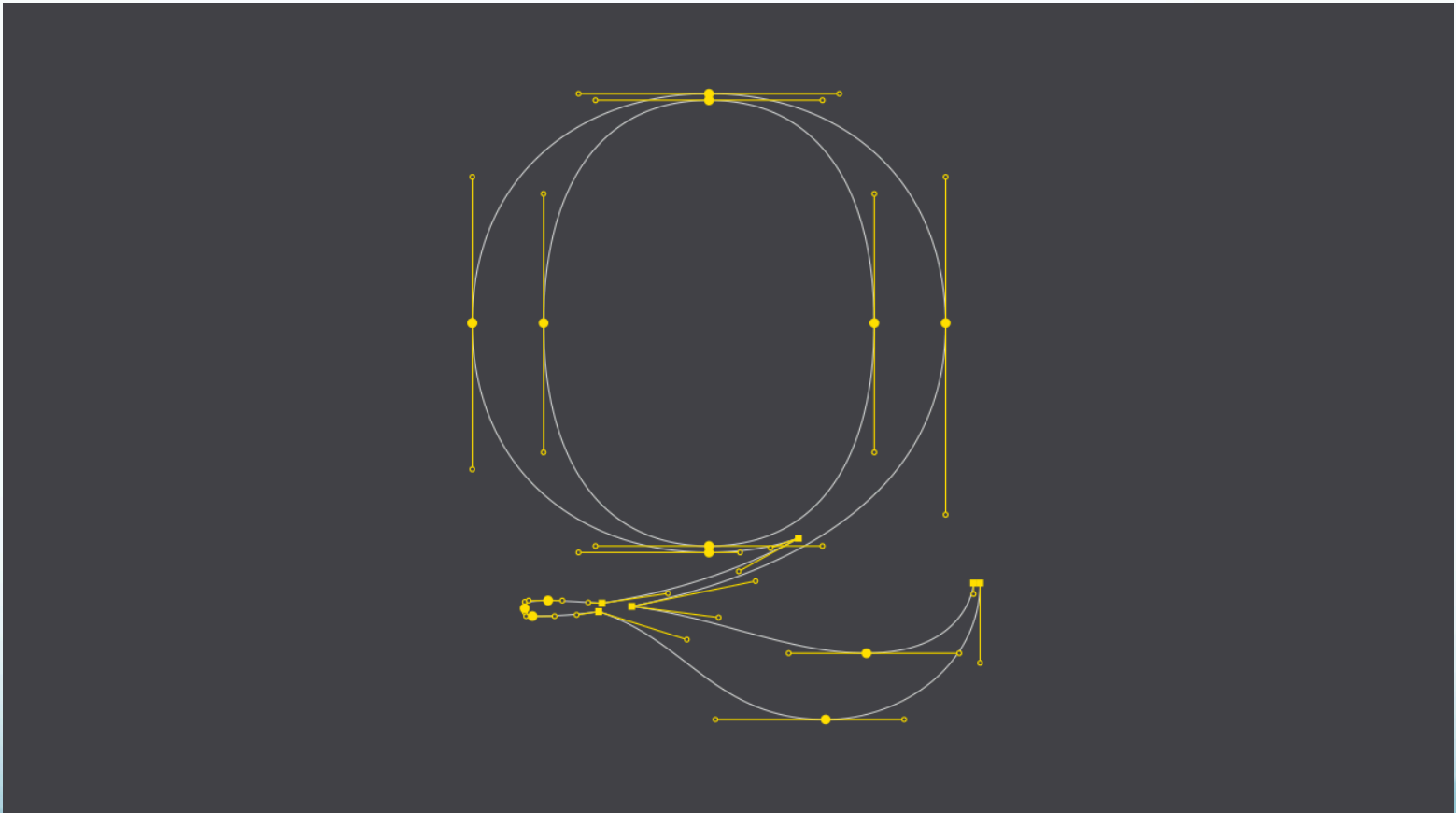
- Named for French auto body designer Pierre Bézier (1960's)
- Mathematics (Bernstein polynomials) understood much earlier (1910's)



iStockphoto/Thinkstock

Application:

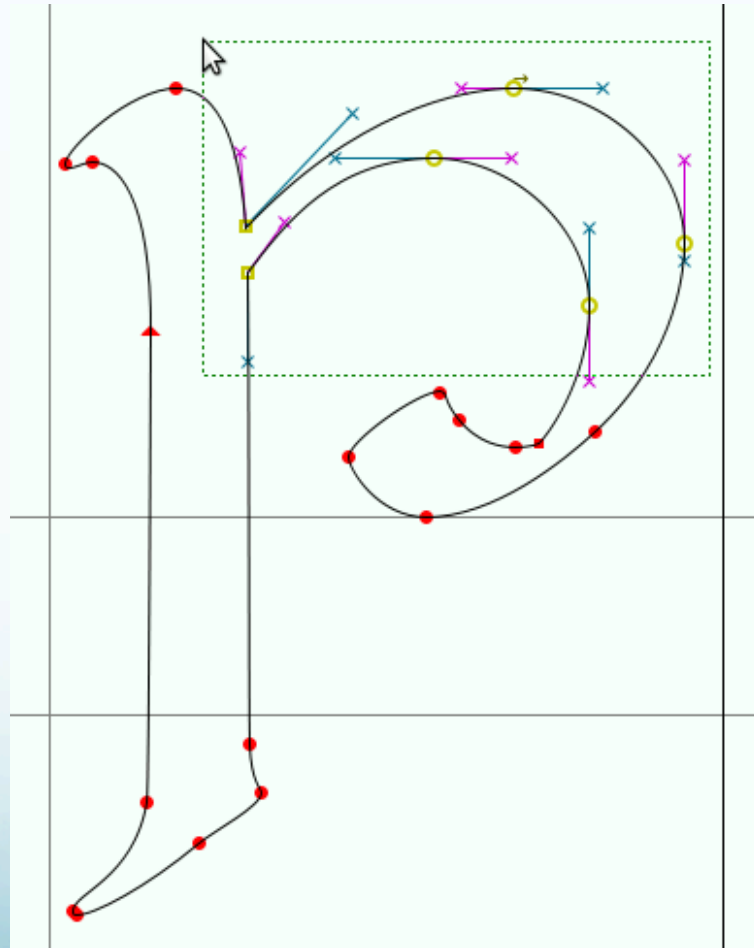
Most fonts use Bézier curves



<http://learn.scannerlicker.net/>

Application:

Most fonts use Bézier curves



Application:

Most fonts use Bézier curves



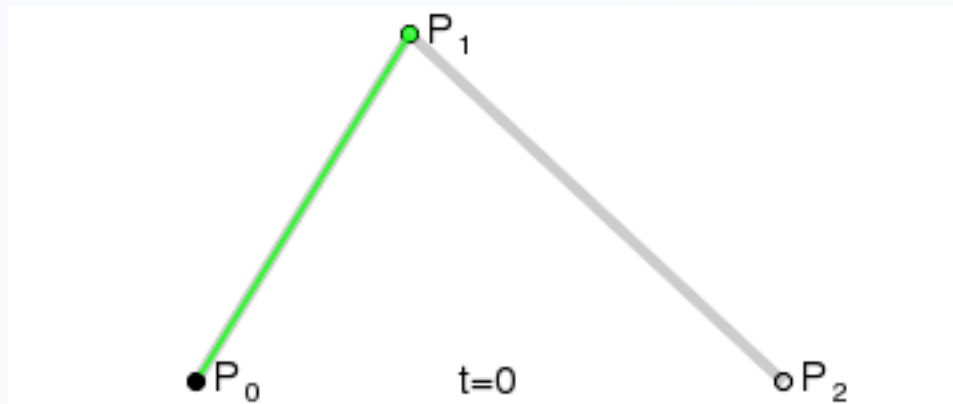
Typeface [Linden Hill Italic](#) (open font)

Designer [Barry Schwartz](#)

Released 2010

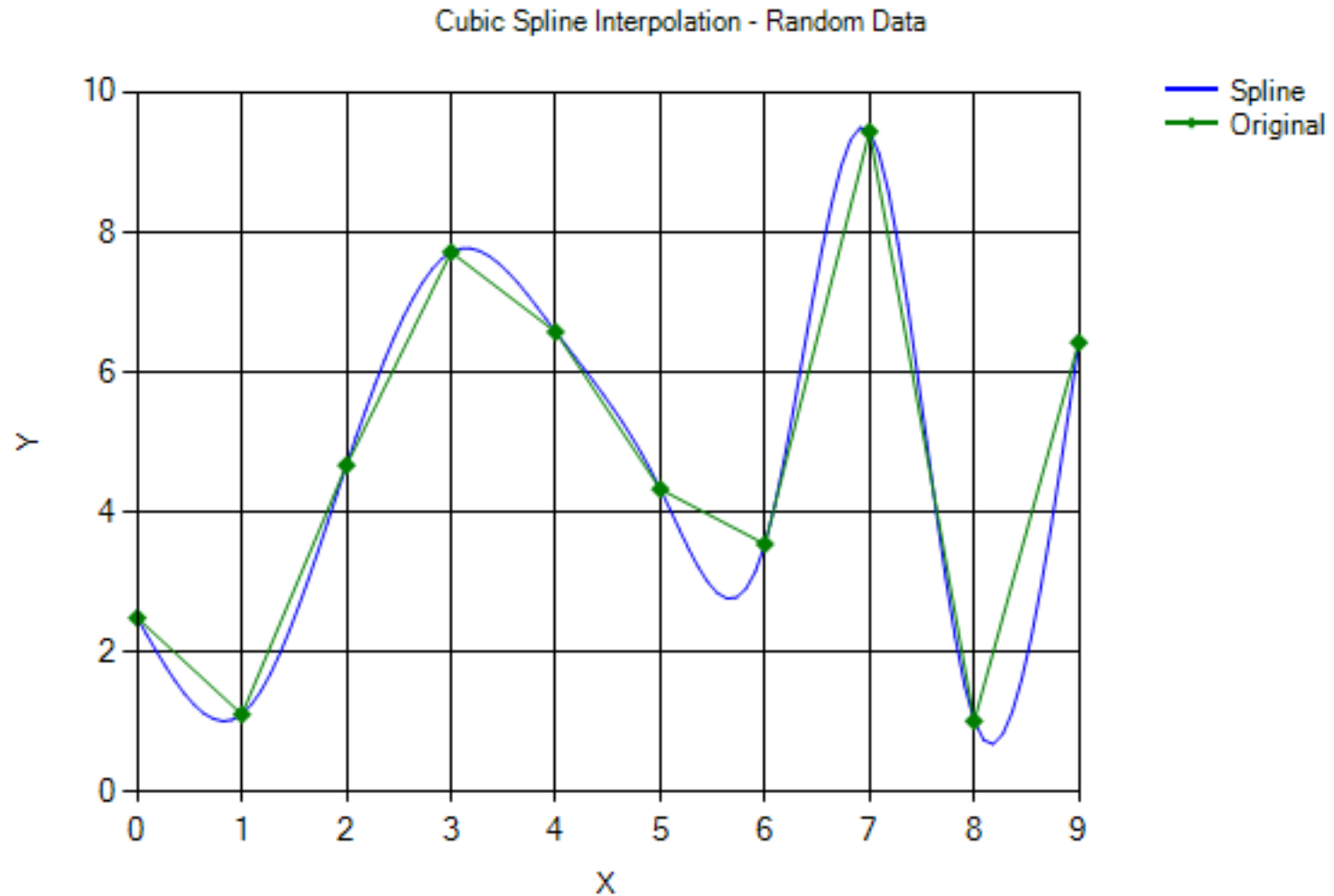
COMPARE

Bézier Curves

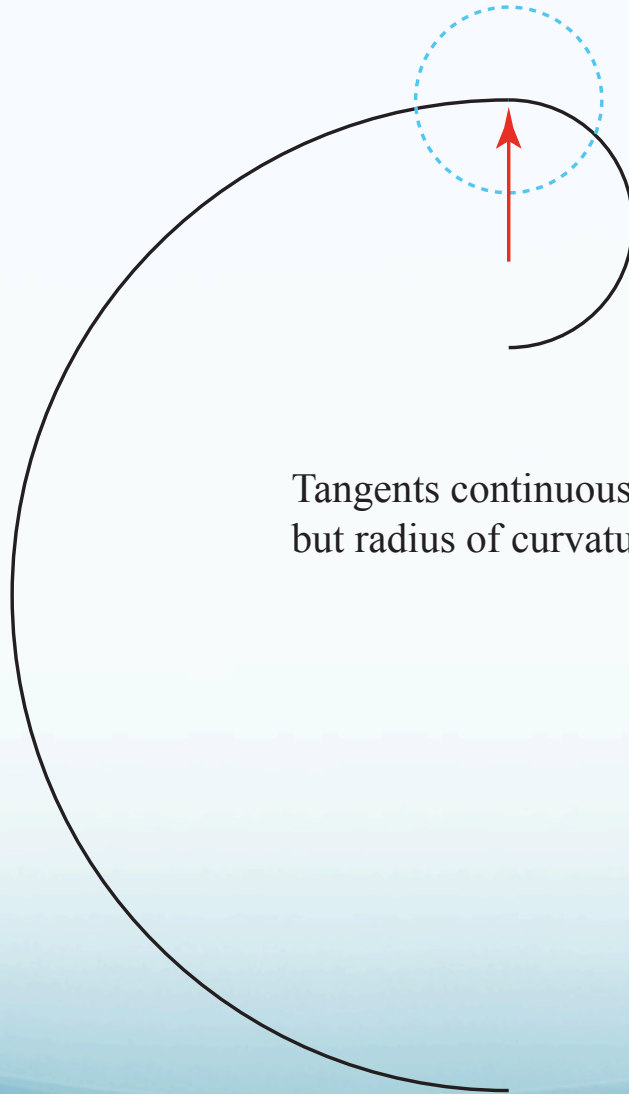


Animation of a quadratic Bézier curve, t in $[0,1]$
by Phil Tregoning

Example Cubic Spline



Why cubic spline?



Tangents continuous,
but radius of curvature discontinuous