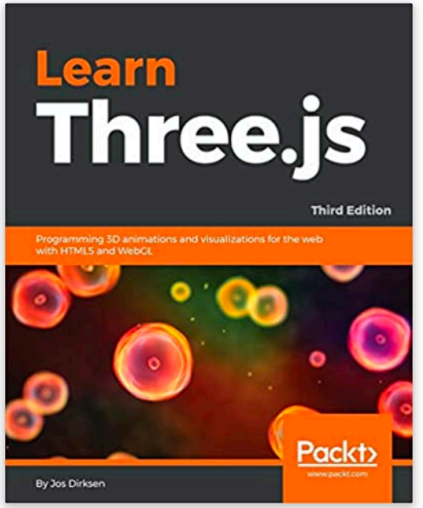
COMPUTER GRAPHICS



* Adapted from CISC 3326 lecture by Michael Mandel

PARAMETRIC LINES AND COLOR INTERPOLATION

Based on this CS 307 reading and this CS 307 lecture*

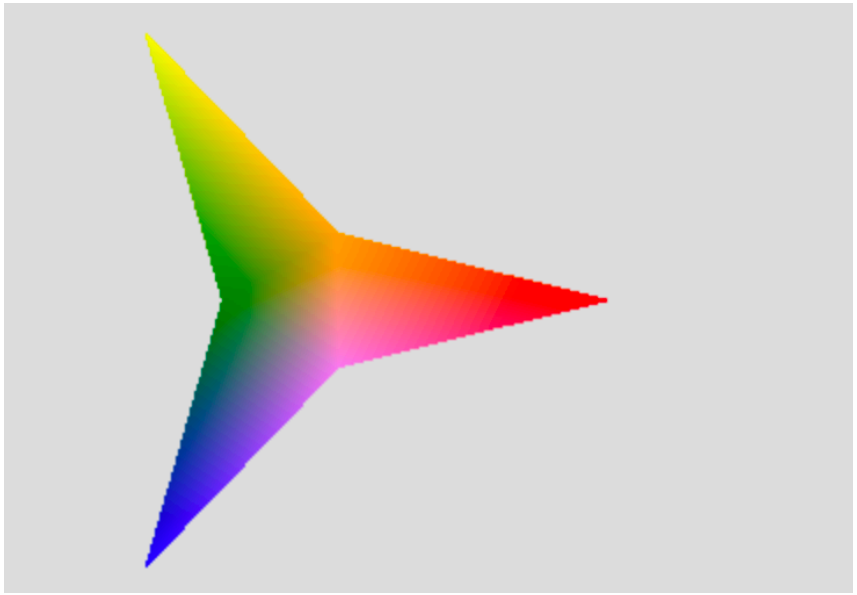
THREE.JS EXERCISES

Exercise: Colorful Stars

- This stars-start pen contains a function starGeometry()
  - that creates and returns a Three.Geometry object for a three-pointed star.
- Let's take a minute to understand that geometry.

Exercise: Colorful Stars

- Modify this code to create a star that uses color interpolation of the triangular faces
  - and adds it to the scene.
- Your result might look like this:



Exercise: Colorful Stars

- Suggestions:
  - The starting code includes an array of THREE.Color objects named colors
    - You can change the colors to whatever you want!
      - Colors array is defined in the starter lab
  - Create the material for the star using THREE.MeshBasicMaterial:
    - add a second property to the input object
      - in addition to the vertexColors property
    - Property should tell Three.js to render both sides of the triangular faces:
      - side: THREE.DoubleSide

Exercise: Add stars to the scene

- Add six additional stars to the scene that each have a uniform color
  - placed around the central star
- Something like this:

Exercise: Add stars to the scene

- Suggestions:
  - Think about how this can be done with a loop
  - Use the same array of colors that you used for the central star
  - Recall that position.set() can be used to place a mesh at a desired location
  - Remember to adjust the bounding box supplied to TW.cameraSetup() to see the additional stars

Exercise: Add stars to the scene

- Suggestions:
  - Inside a loop, your may want to include code similar to:

```
for (i = 0; i < 6; i++) {
…
    angle = i*(Math.PI/3);
    x = 1.5*size*Math.cos(angle);
    y = 1.5*size*Math.sin(angle);
    starMesh.position.set(x,y,0);
    …
}
```

Questions?