

## Coding a Star in SVG on a 200 by 200 grid

To get started copy the code of this image into your editor:
http://steamcoded.org/lessons/grid200x200.svg.txt and save the file as star.svg and open the file in a browser.

In the editor, add the SVG elements (per instructions below) where indicated in the SVG code, i.e. inside the second grouping (<g> element). Important: Save the file and refresh the browser after each step.

1: Append to the style attribute of the parent group:
<style="opacity:0.5;stroke:blue;stroke-width:0.5;"
2: Create a group element $\langle\mathrm{g}>$ with id="star" as a child of the group in step 1.
3: Create a group element $\langle g>$ with $i d=" s 90$ " as a child of the "star" group
4: Add these elements as children of the "s90" group
Create a path drawing a line from $(0,100)$ to $(100,100)$
Create a path drawing a line from $(10,100)$ to $(100,90)$
Create a path drawing a line from $(20,100)$ to $(100,80)$
Create a path drawing a line from $(30,100)$ to $(100,70)$
Create a path drawing a line from $(40,100)$ to $(100,60)$
Create a path drawing a line from $(50,100)$ to $(100,50)$
Create a path drawing a line from $(60,100)$ to $(100,40)$
Create a path drawing a line from $(70,100)$ to $(100,30)$
Create a path drawing a line from $(80,100)$ to $(100,20)$
Create a path drawing a line from $(90,100)$ to $(100,10)$
Create a path drawing a line from $(100,100)$ to $(100,0)$
5: Add these elements as children of the "star" group below the "s90" group Create a <use> element referencing the "s90" group of elements, i.e. xlink:href="\#s90" and rotate it 90 degrees about $(100,100)$
Create a <use> element referencing "s90" and rotate it 180 degrees about $(100,100)$
Create a <use> element referencing "s90" and rotate it 270 degrees about $(100,100)$
6: Add these elements below the "star" group
Create a <use> element referencing "star" and rotate it 30 degrees about $(100,100)$
Create a <use> element referencing "star" and rotate it 60 degrees about $(100,100)$
7: $\quad$ Add <use> elements to rotate the star every 15 degrees, i.e. $15,30,45,60,75$

8: Add path commands to the "s90" grouping to draw lines every 5 units
When complete, change the style attribute of the first element from "display:initial" to "display:none" which hides the grid. Then change the style style attribute of the second element from "opacity:0.5" to "opacity:1"

