Part 4: Graphics in JavaScript

For this part you have unlimited time until the deadline, and open course notes. The same rules apply about discussing the exam.

For this part you are asked to write one animation in JavaScript/HTML Canvas, starting from the code `animation.html` on the course website.

When you open this animation, you should see a diamond shape. The goal of this animation is to make a square move along this diamond in a particular way.

(a) First uncomment the `graphics.fillRect(?,?,?,?);` line and fill in the question marks to make the square appear at the top of the diamond. Use the `sideLength` variable defined at the top of the code. In essence, you are writing code for a square *centered at the origin*, but because of the initial translate in `draw()`, the square appears at the top of the diamond. For the rest of the code, this is the only way you can call `fillRect` to create a square.

(b) Use a call to `graphics.translate(tx,ty)` to make the square gradually move along the upper left side of the diamond. This is labeled *large* to indicate the square is its initial size.

(c) When the square reaches the leftmost point of the diamond, again use translate to move it along the next side of the diamond. Complete the entire diamond in this way, then reset so that the square continues to move around the diamond indefinitely.

(d) Finally, modify your code so that the square is smaller along the sides marked *small*, and its original size along the sides marked *large*. Use `graphics.scale(ax,ay)`.