Design Challenge Set 4 – Twists and Spirals

In this problem set “twist” refers to a linear extrusion with the twist parameter alone. “Spiral” refers to using “twist” and “translate” together.

Twist

Spiral

Tip:
If you use few slices (10-15), leave VIEW EDGES on.
If you use many slices (50 or 500), turn VIEW EDGES off.

1. Code a square (center=true) and perform 3 different linear extrusions with different values for twist, translate, etc. At least 1 should be only a twist. At least 1 should be a spiral.

2. Extrude circles to create a double helix: two spirals that wrap around the same space but do not touch. Bonus: Create a triple helix, a quadruple helix. (This makes a pretty cool object.)

3. Extrude a circle to create a cylinder (no twist). Then, extrude a congruent circle to create a spiral that wraps perfectly around the outside of the cylinder.

4. Experiment with #3 to make at least 2 new designs. Change the twist and slices arguments. Can you wrap a double helix around the cylinder?

5. Code the difference of a two circles. Add linear_extrude before the difference command to extrude this difference object. Twist if you want to.

6. Design a coffee table with twisty legs.

7. Code a jack-in-the-box. Your design must include at least one twisted extrusion and at least one rotate command.