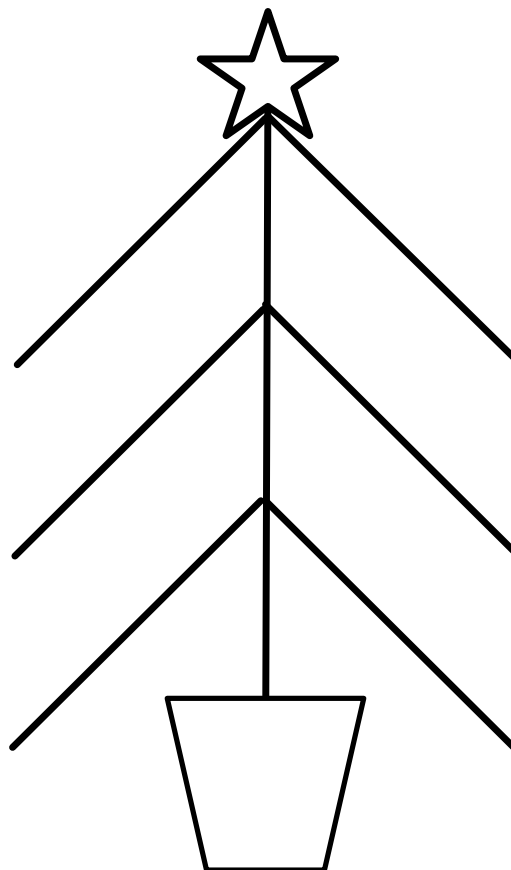# Algorithmic Doodle Art 4: Christmas Tree

Landscapes in films are often computer generated. Ever wondered how they do it? Next time you find yourself doodling, draw an algorithmic doodle and explore algorithms for drawing nature. Here is an example Doodle Algorithm. What does it look like?

1. Start by drawing a completely bare christmas tree shape (as below)

2. DoodleDraw from the branches of the tree as below.

3. Finally, repeatedly pick the end of a line at random and draw a small circle there.

To DoodleDraw from a given line:

1. Draw a V at the **end** of the line pointing towards the **base** of the line.

2. Draw a V **three-quarters** of the way along the line pointing towards the **base** of the line.

3. Draw a V **half** way along the line pointing towards the **base** of the line.

4. Draw a V **a quarter** of the way along the line pointing towards the **base** of the line.

5. Choose a new existing line and **DoodleDraw** from that line

Different algorithms give different looking trees, grasses, ferns, snowflakes, crystals, so now try inventing your own doodle art algorithms and see how realistic the drawings you end up with are.