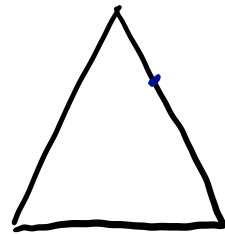


Lecture 25 L-systems:

Koch Snowflake

- Start with an initial shape:



Drawn with turtle, according to the string

'F++F++F'

base string: draws initial shape

Where these symbols mean:

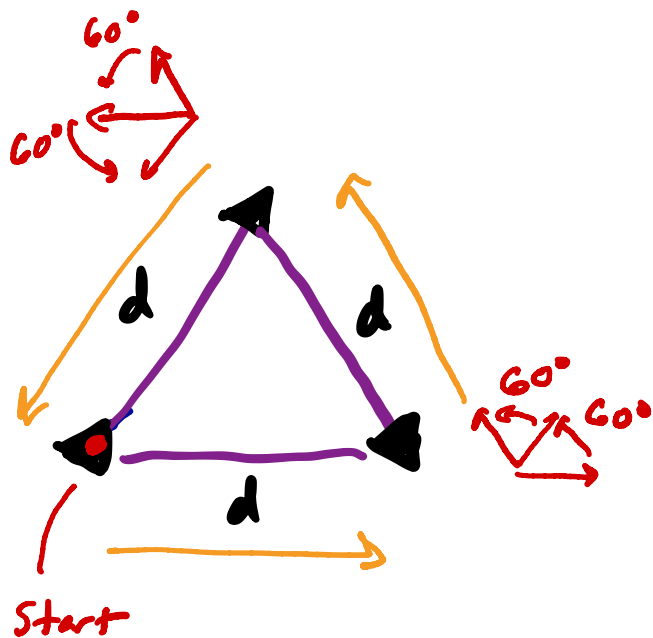
F: Turtle, move forward a distance d .

-: Turtle, turn right by θ degrees.

+: Turtle, turn left by θ degrees.

Character

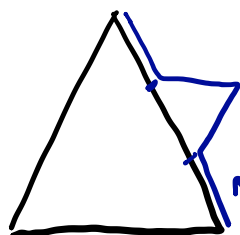
Symbols = our L-system alphabet



• Any d works

• $\theta = 60^\circ$

- Apply a replacement rule: Find 'F' in base string, replace with 'F-F++F-F'



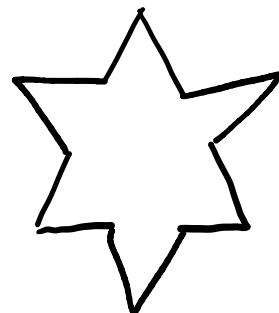
Initial shape

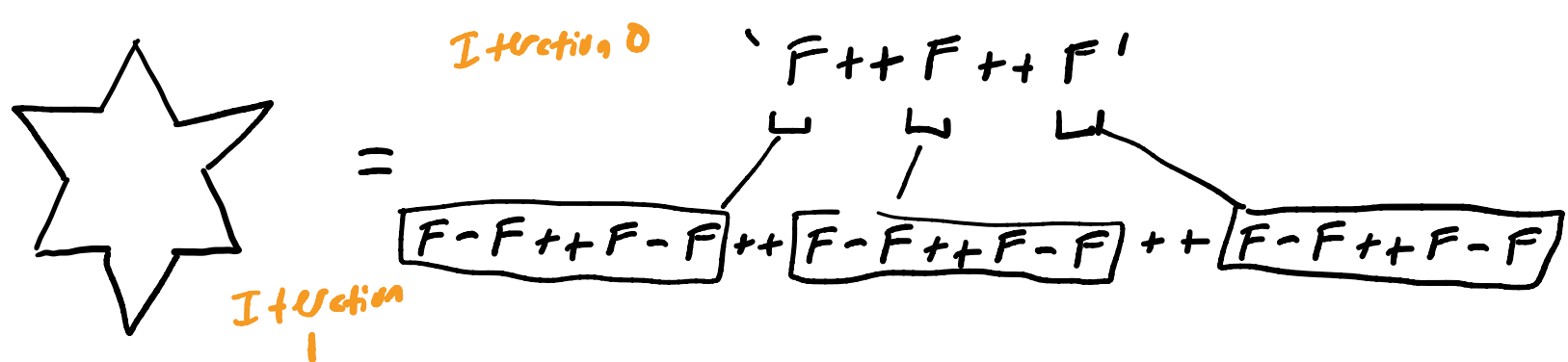
Replace

with:

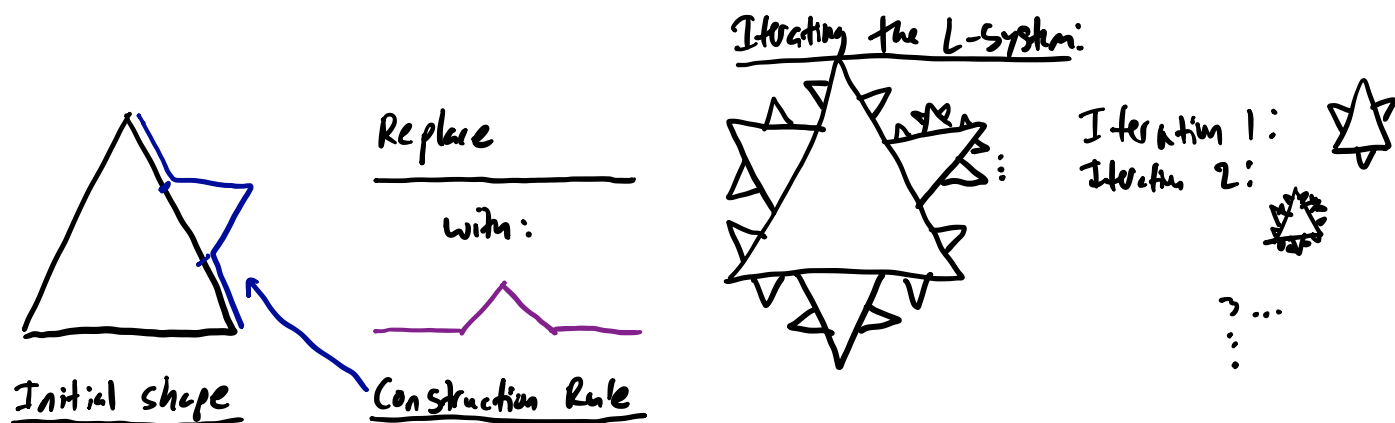


Construction Rule





- Iterate replacement rule some number of times



Let's implement an l-system to draw a Koch Snowflake