

Example: L-System (more complex)_{JP}

Consider the following definition of a L-System.

JFLAP : (LsystemJ2.jff)

File Input Help

Editor

Axiom: `W Y + + W`

Table Text Size

LHS	RHS
<code>W</code>	<code>→ [## ## ## W X f f X + + + f f W Y]</code>
<code>X</code>	<code>→ [{ - g + + g % - - - g }]</code>
<code>Y</code>	<code>→ [g + g + f + f]</code>

Name	Parameter
distance	20
polygonColor	blue
angle	18.25

Predict the graphical outcome of this system.

- What do you expect the appearance to be of a single iteration?
- What changes will occur in the next iteration?
- What pattern do you expect to emerge?
- How many derivations do you expect to need to create a "complete cycle"?

Enter and run the L-System in JFLAP.

Compare your predictions with the actual results.

- What accounts for any differences between the predicted and actual display?

Consider how this image is rendered in the 2D display.

- Predict the appearance when Pitch = 90°, Roll = 0°, Yaw = 0°.
- Predict the appearance when Pitch = 0°, Roll = 90°, Yaw = 0°
- Predict the appearance when Pitch = 0°, Roll = 0°, Yaw = 90°

Experiment with the view by modifying Pitch, Roll, and Yaw. Compare your predictions with the actual results.

- What accounts for any discrepancies between the predicted and actual display?

Sample Solution (see: LSystemJ2.jff)

Sample Run Using Input > Render System















