Fractals

- A fractal is generally "a rough or fragmented geometric shape that can be subdivided in parts, each of which is (at least approximately) a reduced-size copy of the whole", a property called self similarity.

- This game involves the generation of koch snowflake. To create a koch snowflake, we start with an equilateral triangle and replace the middle third of every line segment with a pair of line segments that form an equilateral "bump".
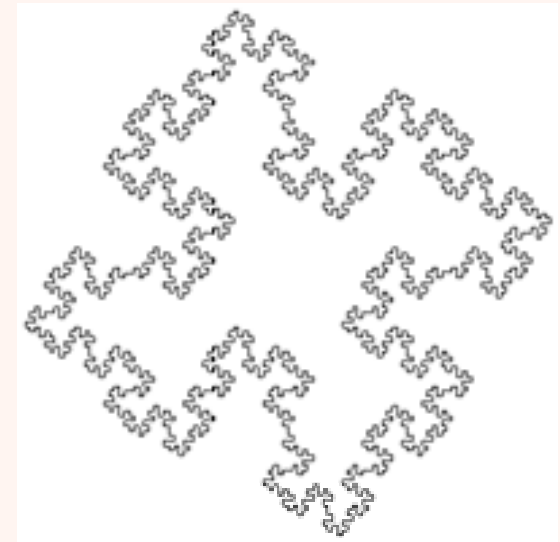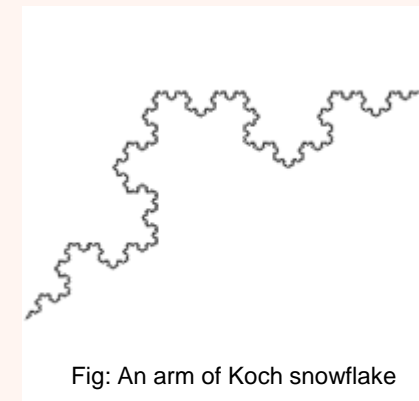
Fig: Koch snowflake

Fig: An arm of Koch snowflake

Generation of the Koch Snowflake

- Then perform the same replacement on every line segment of the resulting shape, ad infinitum.
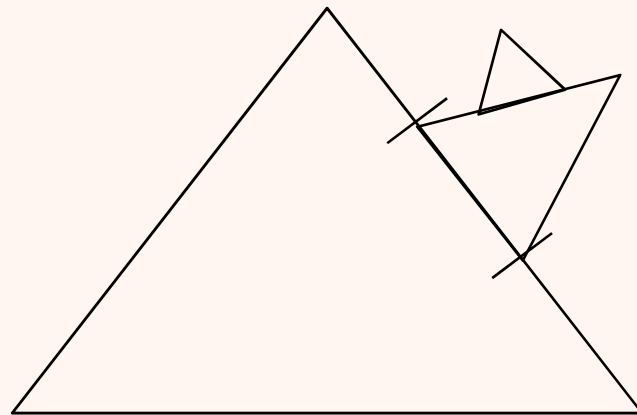- Generation of koch snowflake

Fig: Generation of the koch snowflake

Description of Input and Output

- The objective here is to calculate the perimeter of the resulting snowflake in each iteration for the given length of equilateral triangle.

- Input: {Type} "Length="{number} "Iterations="{number}

  Example: triangle Length=9 Iterations=1

  Here tri means triangle

- Output: {number}

  Example: 36

How to…   **C**atalysts

When you select "Request Tests", you will be provided several test cases in the format described above.

You are presented with the input to your program.

Input the results from your program to the response fields.

Select "Submit Tests".

The test server will validate your submission.