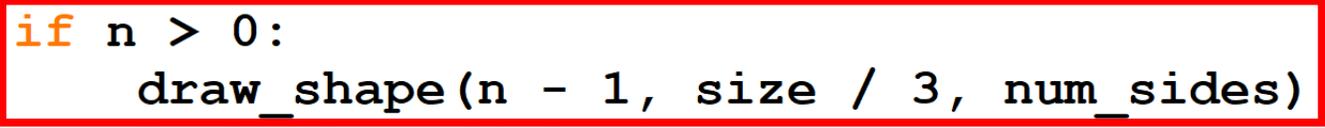


# Recursion – An Example

```
import turtle
```

```
def draw_shape(n, size, num_sides):  
    for i in range(num_sides):  
        turtle.forward(size)  
        if n > 0:  
            draw_shape(n - 1, size / 3, num_sides)  
        turtle.backward(size)  
        turtle.left(360/num_sides)
```

Recursive case

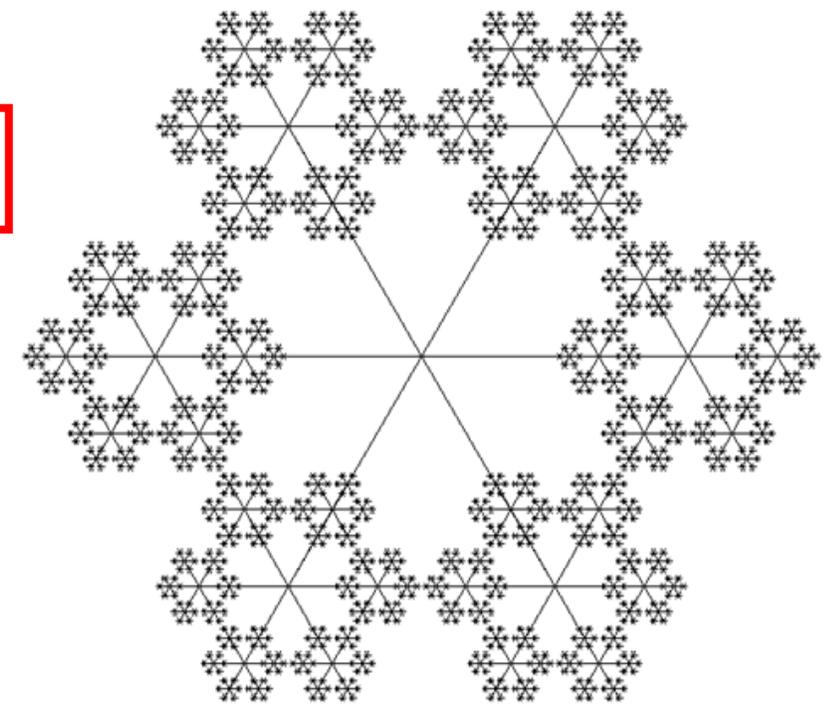


```
turtle.tracer(False)  
turtle.hideturtle()  
draw_shape(4, 200, 6)  
turtle.tracer(True)
```

Start drawing



```
turtle.done()
```



# Flood Fill Algorithm

- Flood fill is an algorithm that is commonly used in:
  - A paint program – the paint/fill tool to fill a connected area with a different color
  - [Minesweeper](#) game – to clear the pieces to review the areas
  - Maze solver program – to find the path from a starting point to the destination
- The most intuitive implementation is recursive approach.

