

Istanbul Technical University - Computer Engineering

BLG 223E - Data Structures

Homework 3

Prepared by: Dr. Yusuf H. Şahin

E-mail: sahinyu@itu.edu.tr Deadline: 01.08.2025



Look at this photograph It's a photo of a photograph, There's another *** photograph, Because I photographed a photograph!¹

Photograph, Nickelback (or maybe, AI?)

Modify the given skeleton code and write a function which creates a cube centered at the given position and side length. Remember that, a cube could be created using 12 triangles. Then, write a recursive function which calls the mentioned cube generation function and generates the following fractal:

- Start with a single cube.
- For every iteration, place a smaller cube to the center of each face of every cube. The edge length of these new cubes should be half of the cubes from the previous iteration.

The first two iterations are given in Figure 1.

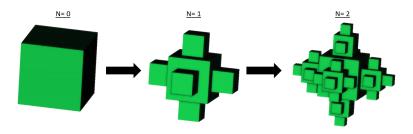


Figure 1: 3D Cube pattern.

Hint: You do not need to consider the "inner" cubes.

¹https://www.youtube.com/watch?v=MxmKc00hsnU