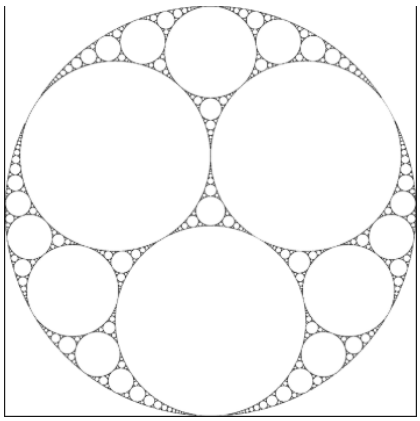
IS F311
Computer Graphics
BITS Pilani, Hyderabad Campus
Assignment -1
Due Date : 3rd October 2018 (by Midnight)
Total Marks: 8 (weightage : 8%)

Exercise 1: Implement Midpoint Line Drawing algorithm for line with any slope in openGL. [2]

Exercise 2: Implement Midpoint Circle Drawing algorithm using openGL. [2]

Exercise 3: Draw some fractal drawings as shown in below figure: [4]



The assignment objective is to read the below paper and implement some fractal drawings using line segments and circles. Be creative, and experiment with many examples.

Reference 1:

Title: Plants, fractals, and formal languages,
Author: Alvy Ray Smith, Computer Graphics Project, Computer Division, Lucasfilm Ltd.
Proceeding: SIGGRAPH '84 Proceedings of the 11th annual conference on Computer graphics and interactive techniques

Reference 2:
http://www.cs.unm.edu/~joel/PaperFoldingFractal/L-system-rules.html

- Read and understand the References .
- The assignment has to be coded completely in C/C++.
- Output has to be plotted using OpenGL library. Sample for using OpenGL to plot can be seen at "https://github.com/piyush96chawla/IS-F311-Assignments".
- The lines and circles have to be drawn using the codes in exercise 1 and 2 above.
- Make the classes and headers properly.
- Develop HTML pages to document the results produced by your code, issues in coding, general discussion on the algorithm, timing analysis, references, and any other remarks.

- Work towards producing aesthetically pleasing ouputs. Credits will be given for creative outputs.

General Instructions:

1. This assignment can be done in groups of no more than three students.
2. The code should be well indented, well commented and easily readable. Points will be deducted for an unorganized and uncommented code.
3. You need to submit your working code, and HTML documentation in zip file to me by the deadline.
4. The name of the file should be id1_CG_A1.zip, where id1 refers to the ID of only one member of the group.
5. The zip file should be mailed to rayt@hyderabad.bits-pilani.ac.in by deadline.
6. You can discuss with your friends but refrain from copying the code and submitting. Copied codes will receive no credits for the entire assignment.
7. You have to demo the code to the instructor on a scheduled date and timing after submission.