CS 221 Functional Programming I
Coursework 3

Question 1. Implement the following operations:
(a) rotating a shape around the origin, (0,0), by a given angle;
(b) rotating a shape around a given point by a given angle;
(c) rotating a shape around ‘itself’, that is its center, by a given angle;
(d) the analogous operations for pictures.

[30 marks]

Question 2. Implement a snowflake fractal. The snowflake consists, in its center,
of a star with 6 tips (of size and color of your choice) and repeats itself with a third
of its size at each tip, while the color changes.

[40 marks]

Question 3. Write an interactive program that does the following: When the user
clicks in the window a randomly scaled copy of your snowflake appears. This is
repeated until the user hits a ‘quit’ button.

[30 marks]

Question 4. (optional) Implement any other fractal of your choice.

[20 marks]

Due date: 6 December 2004. To be submitted by email.

Notes:
1. Use the template as well as suitable modules available at
http://www.cs.swan.ac.uk/~csulrich/cs221.html.
2. Submit this coursework by email (don’t submit a printout). As subject of your
email use
Fp1 CW3 <your surname>
Only files that do compile can be marked!