# EXERCISES FOR INF3320

## BASIC GRAPHICS PROGRAMMING

07/09/2011

1. Animate the white square from previous exercise set so that it rotates. By adding `glutPostRedispla` in the idle function you trigger rendering events continuously.

   The number of degrees you rotate should depend on how long the program has been running so that the speed of rotation is constant regardless of how often rendering events are triggered. Look at the timer class in the boost library.

   You can start from the file `ex2-2_rotating_square.cpp.template`.

2. Make a program that draws a Koch snowflake. Let '+' and '-' increase and decrease the number of iterations. Make sure the number of iterations is never below 0...

   You can start from the file `ex2-3_koch.cpp.template`.

3. Make a program that draws a sequence of points joined together by line segments. The user should be able to click on a point with the mouse and drag it around.

   This program forms the basis for a later exercise involving curves.

   In the function `myMousePress` you need to find out which of the points in `points` is nearest the cursor, and if the point is close enough, update `selected` with the index of this point.

   In the function `myMouseMotion` we check whether `selected` is different from `-1`. If it is then we update the point with the given index to the position of the cursor.

   If the user clicks on a line segment, a new point is created between the end points of the segment thus splitting the segment into two. If the user clicks with the right mouse button on a point the point is removed.

   You can start from the file `ex2-4_polylinemanip.cpp.template`.

   See also `LineSegment.hpp`.