

## Assignment R4

**Due Date:** To be announced during the lectures and posted on the course web page.

**Note:** Problems identified only by number (e.g., A.1, 2.1, etc.) can be found in the coursepack textbook. More specifically, Problem  $x.y$  can be found in the coursepack textbook at the end of chapter/appendix  $x$ .

### Preamble

This assignment covers material primarily related to the following: **subdivision surfaces**.

### Problems

**NOTE:** In this assignment, when doing problems that require you to apply subdivision to a mesh, **the diagram of the refined mesh must have each vertex labelled with the formula for its coordinates as well as the result obtained from fully simplifying the formula**. If this information is not included in the diagram, a **significant mark penalty** will be applied. The above labelling approach is followed by most of the worked through subdivision problems in the textbook. For example, see Figure 9.22(b) on page 386 (textbook version 2013-09-26).

- ◇ 9.1 a [linear subdivision] **[Be sure to follow the instructions in the note above.]**
- ◇ 9.1 b [Loop subdivision] **[Be sure to follow the instructions in the note above.]**
- ◇ 9.5 a b [Loop subdivision, position/tangent masks]
- ◇ 9.3 a b [Catmull-Clark subdivision] **[Be sure to follow the instructions in the note above.]**
- ◇ 9.1 c [Kobbelt  $\sqrt{3}$  subdivision] **[Be sure to follow the instructions in the note above.]**