Tutorial Questions: Chapter 11

1. **Verify the C2 continuity of the cubic B-spline**

The B-spline needs to have at an order 4 (or degree 3) to have a continuity of C2 for a curve. The curves continuity depends on this degree and its knot sequence rather than the number of points.

1. **Suppose that you use a set of spline curves to describe a path in time that an object will take as part of an animation. How might you notice the difference between G1 and C1 continuity in situation?**

C1 continuity implies that the parametric equation associated with the curve or surface affects the first derivative continuity and G1 continuity means it is more of a unit tangent vector continuity.

1. **For a 1024 x 1280 display screen, what is the maximum number of subdivisions that are needed to render a cubic polynomial surface?**

There is no maximum the process can continue until the projected size of the convex hull is less than the size of one pixel

1. **What happens in the cubic Bezier curve if the values of the controls points P0 and P1 are the same?**

It would create a line for the first 3 points and therefore have no curve