



Figure 1: Surface Control Grid

1. Take the control grid in Figure 1 to be for a tensor-product B-spline surface of degree three. The knot vector in the  $s$  parameter direction (horizontal in this view) is

$$k_s = [0, 2, 2, 6, 6, 8]$$

and in the  $t$  parameter direction is

$$k_t = [0, 0, 0, 1, 1, 2].$$

What are the control points after performing a knot insertion at  $s = 4$ .

2. The B-spline surface in Problem 3 (before doing knot insertion) consists of a single Bézier surface. Find the Cartesian coordinates of the control points of that Bézier patch.