

# Project 2

## Mixing Curve Algorithms

The de Casteljau algorithm is defined as follows.

```
dca[b_, r_, i_, t_] := If[r == 0, b[[i + 1]],  
(1 - t) * dca[b, r - 1, i, t] +  
t * dca[b, r - 1, i + 1, t]];
```

Create a similar routine for Aitken's algorithm, which might look like this:

```
aitken[b_, knot_, r_, i_, t_]
```

Experiment blending the two resulting curves in a manner like this:

```
mix[b_, knot_, r_, i_, alpha_, t_] =  
(1 - alpha) dca[b, r, i, t] + alpha * aitken[b, knot, r, i, t];
```

Experiment with using  $\alpha$  as a parameter in **Manipulate**. Allow values of  $\alpha$  outside  $[0,1]$ . Comment on your results.