

Honors Project 8b: Bezier Curves Again

In Honors Project 7a, we discussed Bezier curves from one point of view. In this project we discuss them from another.

The following Maple code defines a procedure `Bezier` that draws a Bezier curve controlled by four points. Type this code into Maple.

```
> # Honors Project 8b: Bezier Curves Again
> restart: with(plots):
> Bezier:=proc(numpoints,P)
  local t,i,vvv,vvu,vuu,uuu,delta,Curve,bezier_curve, points;
  t:=0.0;
  Curve:=array(1..numpoints+1,1..2);
  delta:=1/numpoints;
  for i from 0 by 1 to numpoints do
    vvv:=(1.0-t)*(1.0-t)*(1.0-t);
    vvu:=3*(1.0-t)*(1.0-t)*t;
    vuu:=3*(1.0-t)*t*t;
    uuu:=t*t*t;
    Curve[i+1,1]:=P[1,1]*vvv + P[2,1]*vvu + P[3,1]*vuu + P[4,1]*uuu;
    Curve[i+1,2]:=P[1,2]*vvv + P[2,2]*vvu + P[3,2]*vuu + P[4,2]*uuu;
    t:=t+delta;
  od;
  bezier_curve:=plot(convert(Curve,listlist)):
  points:=pointplot(P,color=blue,symbol=circle):
  RETURN (display([bezier_curve,points]));
end:
```

To see what this code does, continue by typing the following command line into Maple: it draws a Bezier curve whose control points have coordinates (1, 2), (2, 6), (4, 4), and (5, 3).

```
> P:=[[1,2],[2,6],[4,4],[5,3]]; Bezier(50,P);
```

Task

Use the procedure defined above to write your name in a single Maple graphic. *Note:* You may need to use several different curves to draw a single letter.)

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