

Math128B
Apr. 21, 2005
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Homework 10 Solutions

Problem 10.1

file	function
Hmwk10Main.m	calls KnotInsertion calls ControlPolygon
KnotInsertion.m	implements p.17 of de Boor's notes
ControlPolygon.m	implements p.12 of de Boor's notes

A diary of the output follows:

```
%%%%%%%%%% Problem #10.1 %%%%%%%%%%
```

```
knot sequence before insertion is:
```

```
[0 0 1 1.5 2 2.1 2.2 2.3 3]
```

```
knot sequence after insertion of x=1.94 is:
```

```
[0 0 1 1.5 1.94 2 2.1 2.2 2.3 3]
```

```
A-sequence before insertion is:
```

```
[1 -1 -0.5 3 -1]
```

```
A-sequence after insertion of x=1.94 is:
```

```
[1 -0.94 -0.57273 1.7 3 -1]
```

```
%%%%%%%%%% Problem #10.2 %%%%%%%%%%
```

```
t* sequence is t* =
```

```
[0.33333] [0.83333 1.5 1.8667 2.1 2.2] [2.5]
```

```
a-values =[0] [1 -1 -0.5 3 -1] [0]
```

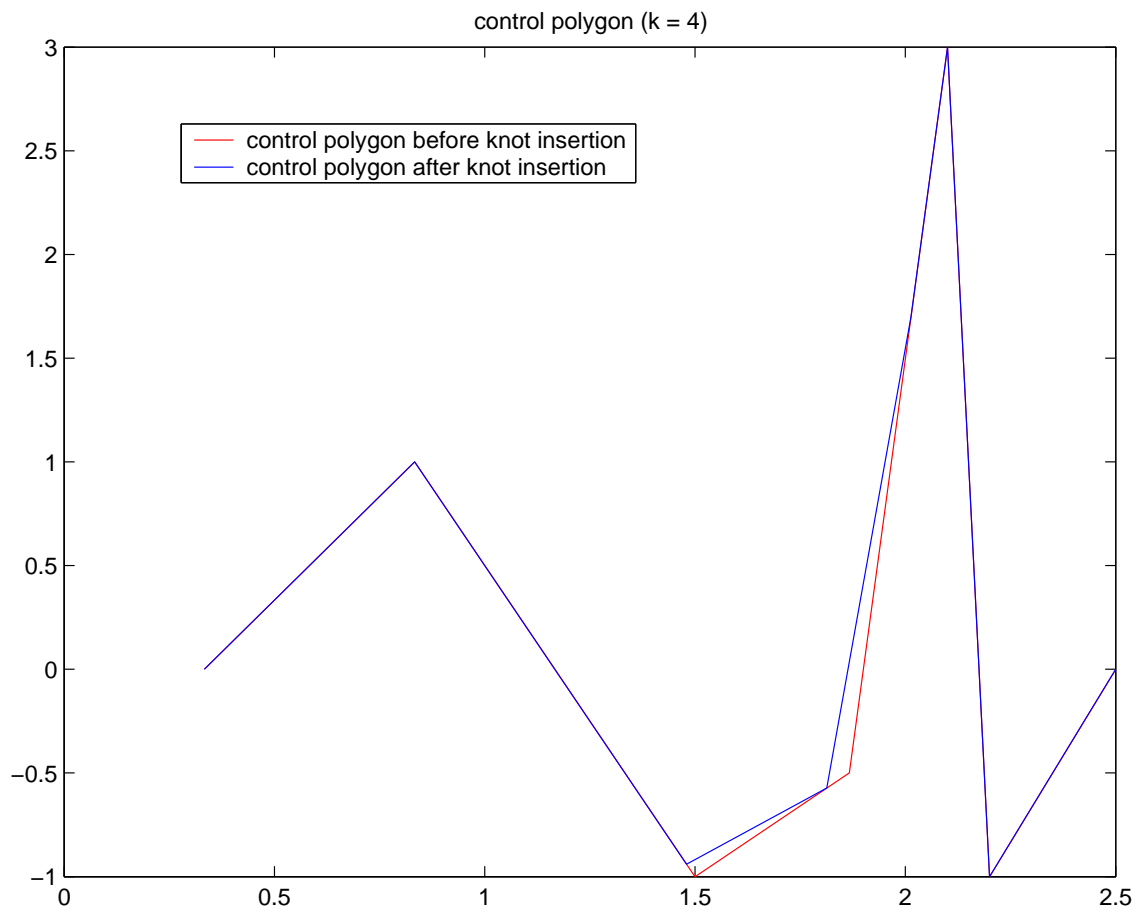
```
%%%%%%%%%% Problem #10.3 %%%%%%%%%%
```

```
t* sequence is t* =:
```

```
[0.33333] [0.83333 1.48 1.8133 2.0133 2.1 2.2] [2.5]
```

```
a-values =[0] [1 -0.94 -0.57273 1.7 3 -1] [0]
```

Problem 10.2



Problem 10.3

Movie showing 30 random knot insertions