

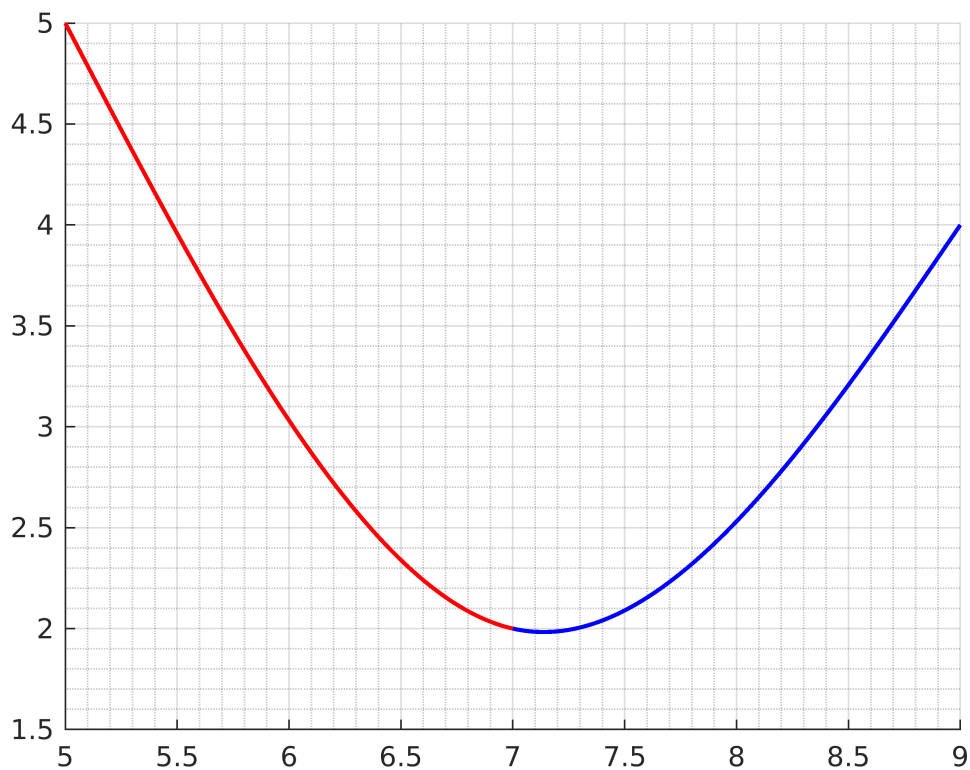
```
addpath(genpath( '/datascience/projects/statisticallyfit/github/MATLAB/MatlabTutorial/'))
```

Comparing the natural spline to the not-a-knot spline

```
xData = [5 7 9];  
yData = [5 2 4];
```

```
naturalSpline_1 = @(x) (5/32)*(x-5).^3 - (17/8)*(x-5) + 5;  
naturalSpline_2 = @(x) (-5/32)*(x-7).^3 + (15/16)*(x-7).^2 - (1/4)*(x-7) + 2;  
  
x1 = 5:0.01:7;  
x2 = 7:0.01:9;  
y1 = naturalSpline_1(x1);  
y2 = naturalSpline_2(x2);
```

```
% Plotting the natural spline  
figure(1); clf; hold on; grid on; grid minor  
plot(x1, y1, 'r-', 'LineWidth', 1.5);  
plot(x2, y2, 'b-', 'LineWidth', 1.5);
```



```
% Plotting the not-a not spline
x3 = 5:0.01:9;
y3 = spline(xData, yData, x3);

plot(x3, y3, 'g-', 'LineWidth', 1.5);

legend('Natural', 'Natural', 'Not-a-Knot')
```

