Rutgers CS323 (04), Spring 2017, Additional Homework

Due at 11:55pm on May 7, 2017, submitted via Sakai

Data Fitting with Cubic Splines

1 Instructions

For this assignment, you are asked to code fitting cubic splines on the South African heart disease dataset. The beginning of the code is like the following:

```
function FitCubSpline(K)

data = feval('load', 'SAheart.data');
data = data(:,[2:5 7:10]);
s = randsample(8,2);
x = data(:,s(1));
y = data(:,s(2));
names = {'sbp','tobacco','ldl','adiposity','famhist','obesity','alcohol','age'};
```

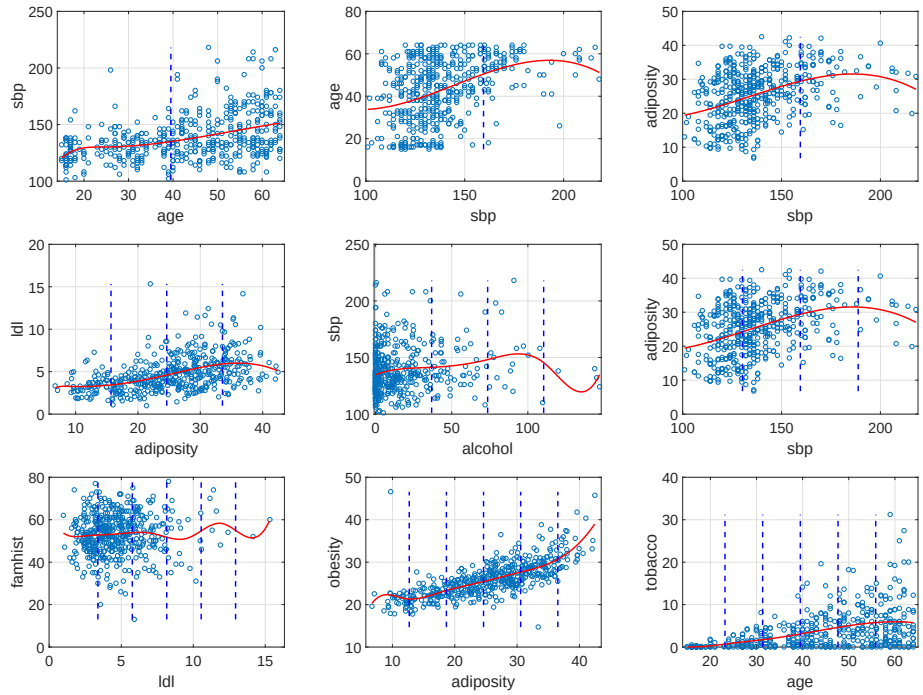

Figure 1: Each panel is the outcome of one execution.

Basically, in each run, the code will fit cubic splines on two randomly selected features with K knots (i.e., $K + 1$ sub-intervals including boundary regions). The results are plotted just like Figure 1 with the correct labels and line types. Note that the K knots are equally spaced between $\min(x)$ and $\max(x)$.

Your submission should have at least one file named FitCubSpline.m . You can write as many functions as needed. You need to submit all necessary .m files.