Tutorial 4

The “datasmooth.txt” contains <x, y> pairs generated from function(x){(x^3) * cos((x+1.4)/2)} with random noise.

(1) Create a scatter plot of the data and overlay the true relationship line on the plot.
(2) Try normal kernel smoothing with different bandwidths on “datasmooth.txt”.
(3) Apply cubic spline with different spars on “datasmooth.txt”.
(4) “newDatasmooth.txt” contains the <x, y> pairs generated from the same function. Utilise this new dataset to estimate mean squared error and select best bandwidths and spars for kernel smoother and cubic spline, respectively.
(5) Normal kernel smoother or cubic spline fits better to “datasmooth.txt”?