STATS 205: Homework Assignment 6

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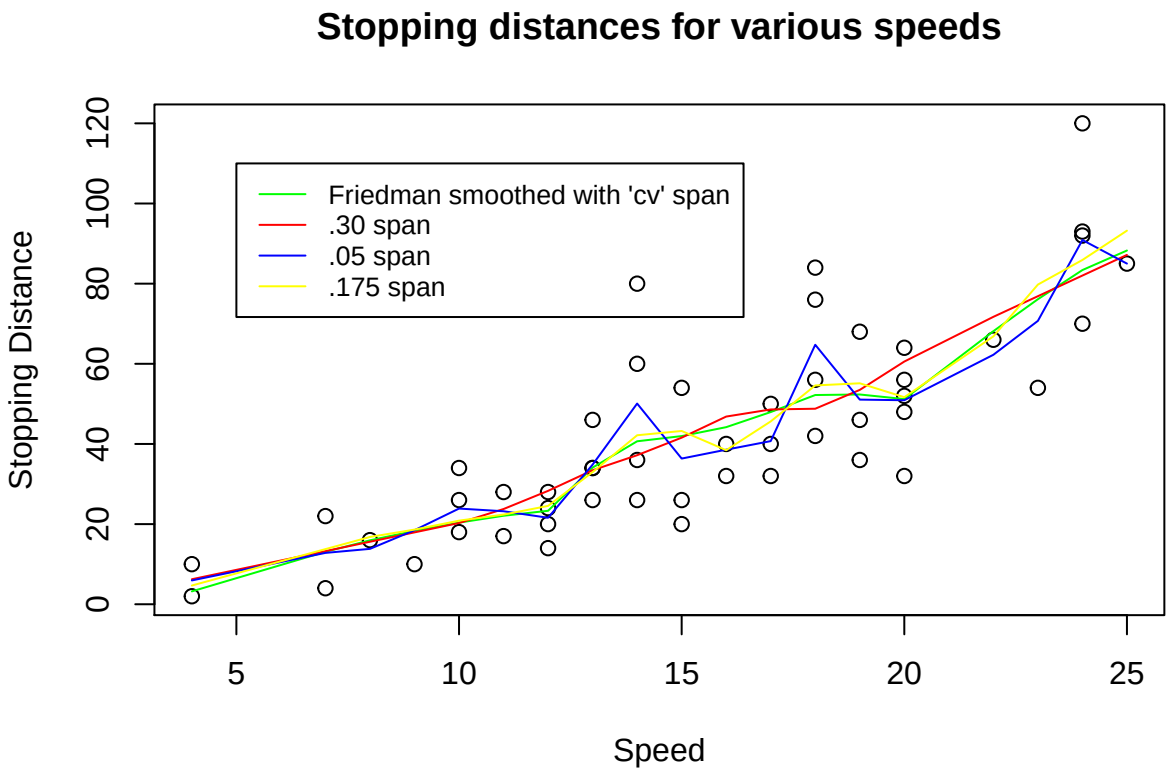
Solution to Problem 1

```
library(datasets)
data(cars)
head(cars)
```

```
##   speed dist
## 1     4    2
## 2     4   10
## 3     7    4
## 4     7   22
## 5     8   16
## 6     9   10
```

```
cars.supsmu = supsmu(cars$speed, cars$dist, bass = 0, span = "cv")
cars.supsmu2= supsmu(cars$speed, cars$dist, bass = 0, span = .30)
cars.supsmu3= supsmu(cars$speed, cars$dist, bass = 0, span = .05)
cars.supsmu4= supsmu(cars$speed, cars$dist, bass = 0, span = .175)

plot(x = cars$speed, y = cars$dist, main = "Stopping distances for various speeds", xlab = "Speed", ylab
lines(x = cars.supsmu$x, y = cars.supsmu$y, col = "green")
lines(x = cars.supsmu2$x, y = cars.supsmu2$y, col = "red")
lines(x = cars.supsmu3$x, y = cars.supsmu3$y, col = "blue")
lines(x = cars.supsmu4$x, y = cars.supsmu4$y, col = "yellow")
legend(5, 110, legend=c("Friedman smoothed with 'cv' span", ".30 span", ".05 span", ".175 span"),
 col=c("green", "red", "blue", "yellow"), lty=1:1, cex=0.8)
```


Stopping distances for various speeds
Friedman smoothed with 'cv' span
.30 span
.05 span
.175 span
Stopping Distance
Speed
0
20
40
60
80
100
120
5
10
15
20
25