

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.supsmu
```

```
## $x
## [1]  4  7  8  9 10 11 12 13 14 15 16 17 18 19 20 22 23 24 25
##
## $y
## [1]  3.215603 13.088873 15.952774 18.313468 20.372250 22.088698 23.325991
## [8] 34.097170 40.661659 41.961822 44.189154 47.957931 52.212849 52.345757
## [15] 51.199218 68.137132 76.120652 83.390851 88.266828
```

```
library(ggplot2)
```

```
## Registered S3 methods overwritten by 'ggplot2':
##   method      from
## [.quosures    rlang
## c.quosures    rlang
## print.quosures rlang
```

```
# qplot(x = cars.supsmu$x, y = cars.supsmu$y)
plot(x = cars.supsmu$x, y = cars.supsmu$y, type = "l", col = "red", main = "Stopping distances for vari
lines(x = cars$speed, y = cars$dist, col = "green")
legend(5, 90, legend=c("Original Cars Data", "Super Smoothed Cars Data"),
      col=c("green", "red"), lty=1:1, cex=0.8)
```

Stopping distances for various speeds

