> setwd("P:/R/data")

> rev\_exp0 <- read.csv("district\_rev\_exp.csv", na.strings = "-")

> head(rev\_exp0)

STATE ENROLL NAME YRDATA TOTALREV TFEDREV TSTREV TLOCREV TOTALEXP TCURINST TCURSSVC TCURONON TCAPOUT

1 California 4041 ALAMEDA CO OFFICE OF ED 2013 50113 4650 NA 30271 43242 14096 27582 1478 86

2 California 2 ALPINE COUNTY SPECIAL SCHOOLS 2013 NA 302 NA 373 1381 133 586 86 7

3 California 300 AMADOR CO SPL SCHS OPER BY CO SUPT 2013 NA 1211 6049 3553 9914 5366 3736 418 231

4 California 1060 BUTTE CO SPL SCHS OPER BY CO SUPT 2013 63918 27769 20704 15445 66483 15692 36339 1329 1772

5 California 588 CALAVERAS CO SPL SCHS OPER BY CO SUPT 2013 11750 1927 7995 1828 13822 5454 5846 679 9

6 California 28 COLUSA COUNTY OFFICE OF EDUCATION 2013 12547 3854 5405 3288 21834 5378 4984 1566 9806

> rev\_exp0$STATE <- as.factor(rev\_exp0$STATE)

> aggregate(rev\_exp0$TOTALREV, by=list(rev\_exp0$STATE), na.rm=TRUE, FUN=mean, trim=0.2)

Group.1 x

1 California 24873.727

2 Connecticut 39990.236

3 Massachusetts 33784.898

4 Missouri 7160.468

> x\_y <- function(x,y) {

+ xy <- (x+y) - 1/(x+y)

+ if (x+y == 0) {

+ return(0)

+ } else {

+ return(xy)

+ }

+ }

> x\_y(-2,2)

[1] 0

> x\_y(2,2)

[1] 3.75

> fun <- function(x) {

+ y <- x^3 + 2\*x + 5

+ }

> fun\_der <- function(x) {

+ yder <- 3\*x^2 + 2

+ }

> curve(fun, xlim=c(-2,2), col = 'blue', lwd = 2, lty = 2, ylab = 'f(x)')

> abline(h=0)

> abline(v=0)

> nr <- function(f, fder, int) {

+ x <- c(int-5, int)

+ i <- 2

+ while(abs(x[i] - x[i-1]) > 0.0001) {

+ x[i+1] <- x[i] - fun(x[i])/fun\_der(x[i])

+ i <- i +1

+ }

+ x[i]

+ }

> nr(fun, fun\_der, int=5)

[1] -1.328269