# Chapter 3

yvals <- read.csv("c:\\temp\\yvalues.csv")

attach(yvals)

hist(y)

# arithmetic mean

total <- sum(y)

n <- length(y)

( ybar <- total/n )

arithmetic.mean <- function(x) sum(x)/length(x)

data <- c(3,4,6,7)

arithmetic.mean(data)

arithmetic.mean(y)

mean(y)

# median

sorted <- sort(y)

length(y)/2

ceiling(length(y)/2)

sorted[20]

sorted[ceiling(length(y)/2)]

sort(y)[ceiling(length(y)/2)]

y.even <- y[-1]

length(y.even)

sort(y.even)[19]

sort(y.even)[20]

(sort(y.even)[19]+sort(y.even)[20])/2

38%%2

39%%2

med <- function(x) {

modulo <- length(x)%%2

if (modulo == 0) (sort(x)[ceiling(length(x)/2)]+sort(x)[ceiling(1+length(x)/2)])/2

else sort(x)[ceiling(length(x)/2)]

}

med(y)

med(y.even)

median(y)

median(y.even)

# geometric mean

100000^0.2

insects <- c(1,10,1000,10,1)

mean(insects)

exp(mean(log(insects)))

# harmonic mean

v <- c(1,2,4,1)

length(v)/sum(1/v)

1/mean(1/v)