1 Vectors

```
y <- 4.3
z <- y[-1]
length(z)

y <- 10:16
y <- c(10,11,12,13,14,15,16)
y <- scan()

A<-1:10
B<-c(2,4,8)
A*B

counts<-c(25,12,7,4,6,2,1,0,2)
names(counts)<-0:8
counts

c <- c(1,2,3)
names(c) <- c("Joe","Jim","Bob")
c

st <- table(rpois(2000,2.3))
as.vector(st)

x <-c(10,12,17,9,18,3)
y <-c(11,3,13,14,7,18)
z <-c(9,12,14,9,13,12)

a <-matrix(c(x,y,z),nrow=6)
b <-matrix(c(x,y,z),nrow=3)
c <-matrix(c(x,y,z),ncol=6)
d <-matrix(c(x,y,z),ncol=3)
e <- t(d)

max(x)
min(x)
sum(x)
mean(x)
median(x)
range(x)
var(x)
cor(x,y)
sort(x)
rank(x)
order(x)
quantile(x)
```

```
cumsum(x)
cumprod(x)
cummax(x)
cummin(x)
pmax(x,y,z)
pmin(x,y,z)
colMeans(a)
colSums(a)
rowMeans(a)
rowSums(a)
```

2 Functions

3 Variance

4 Functions II

5 Apply

6 Advanced Topics

7 Dates and Times