**1.) Exercise: Explore the relationship between the following, where x contains numbers from 1 to 100:**

a) **x and x^2**

X<- 1:100

Y<- X^2

plot(X,Y)

b) **x and x^3**

X<- 1:100

Y<-X^3

plot(X,Y)

**c) x + y = 101**

X<- 1:100

Y<- 101-X

plot(X,Y)

**d) xy = 500**

X<- 1:100

Y<-500/X

plot(X,Y)

2.) **First we'll produce a very simple graph using the values in the car vector:**

a) cars <- c(1, 3, 6, 4, 9)

b) plot(cars,type="b",col="red")

title("a simple graph of Cars")

c) cars <- c(1, 3, 6, 4, 9)

d) plot(cars, type="o", col="blue")

e) title(main="Autos", col.main="red", font.main=4)

3.)

a) cars <- c(1, 3, 6, 4, 9)

trucks <- c(2, 5, 4, 5, 12)

b) plot(cars,type="o",col="blue",ylim=c(0,12))

c) plot(trucks, type="o", pch=22, lty=2, col="red")

title(main="Autos",col.main="red",font.main=4)