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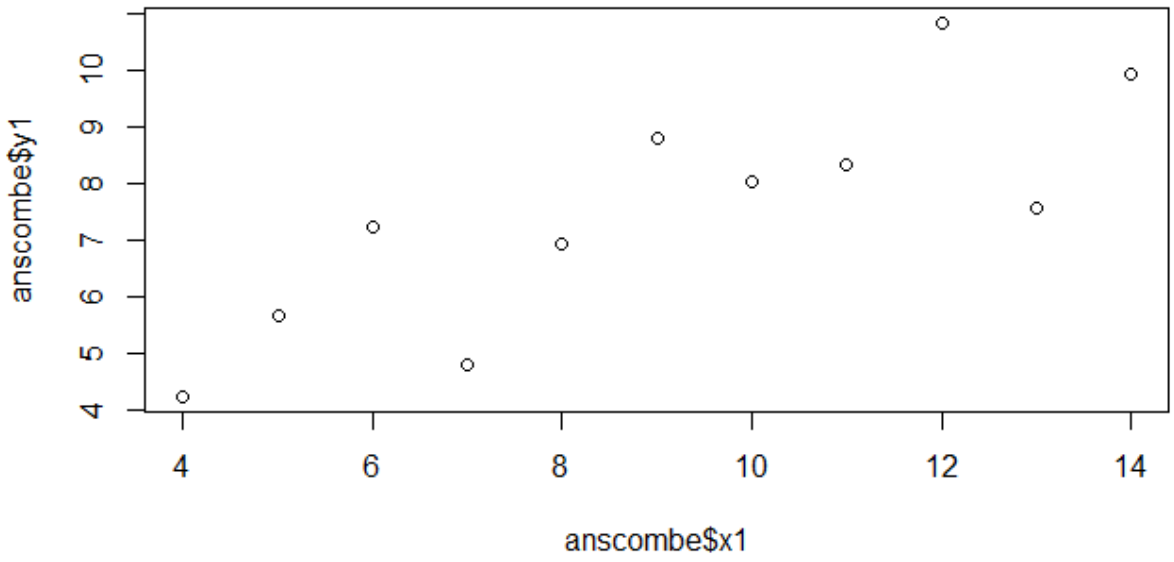
EPPS 6356 Data Visualization (Fall 2021)

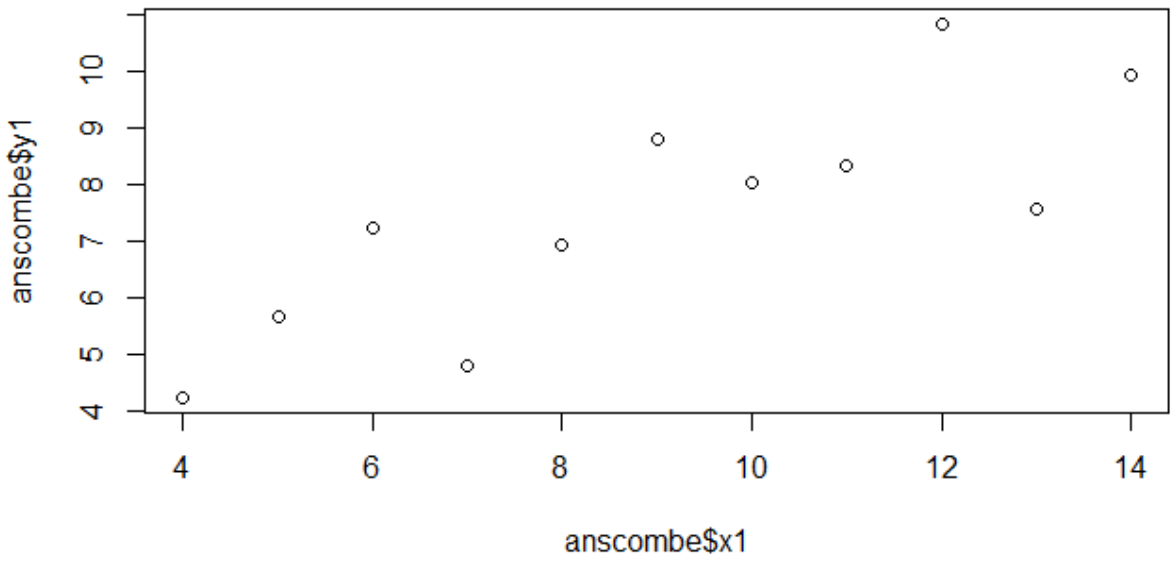
Anscombe Plots

September 28, 2021

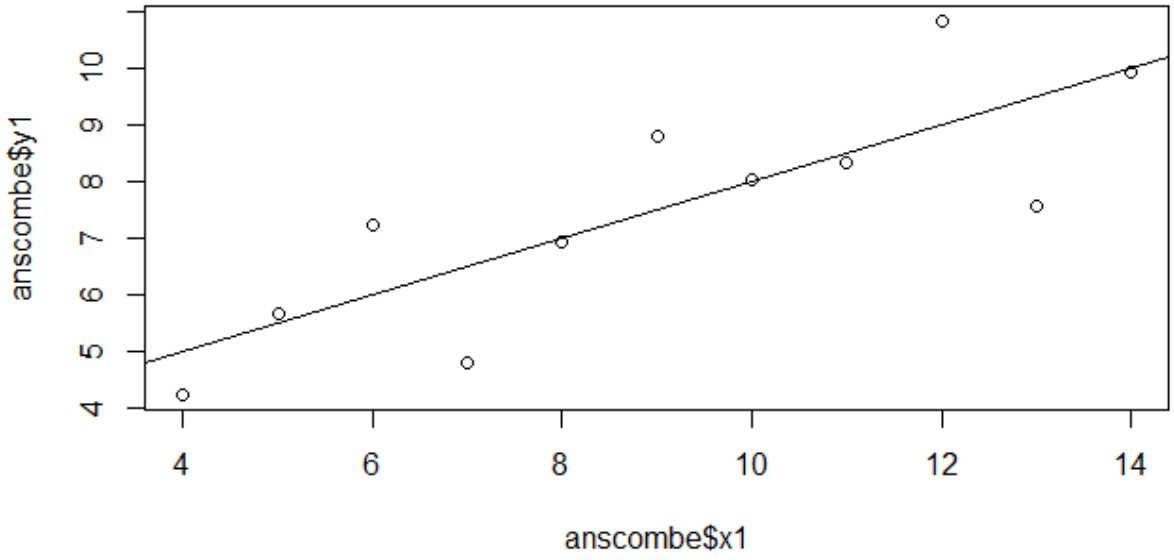
Anscombe (1973) Quartlet
> data(anscombe) # Load Anscombe's data
> View(anscombe) # View the data
> summary(anscombe)
Simple version
> plot(anscombe$x1,anscombe$y1)



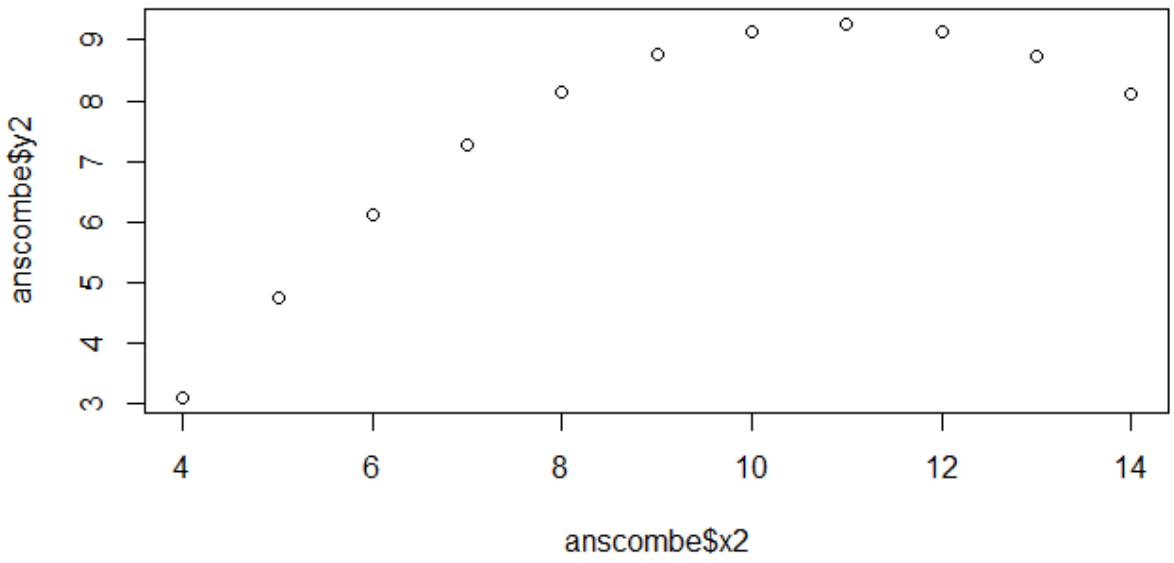
plot(anscombe$x1,anscombe$y1)



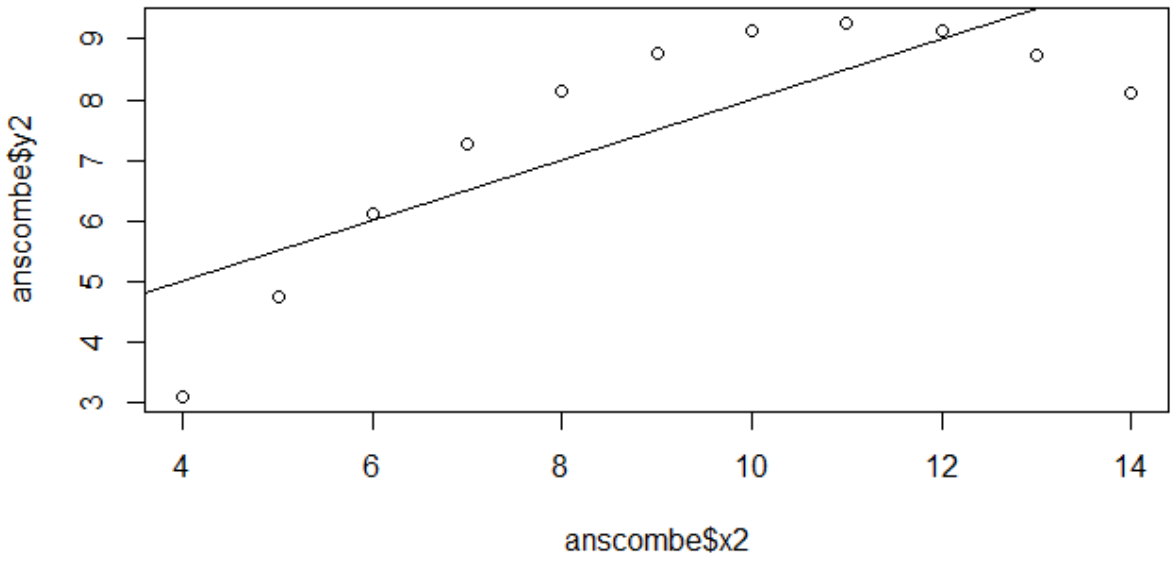
abline(coefficients(lm1))



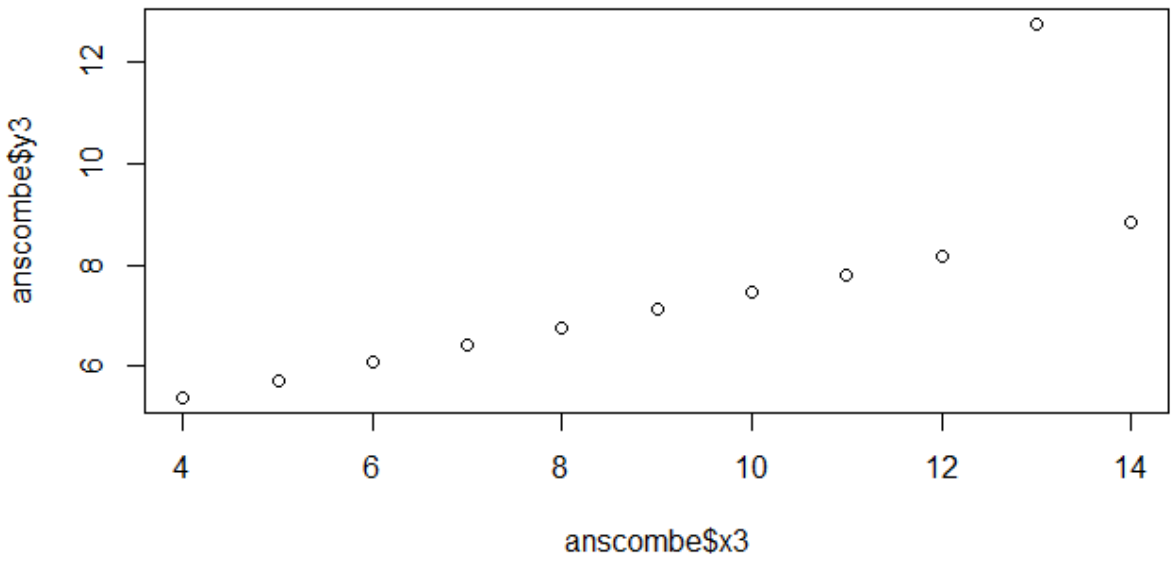
plot(anscombe$x2,anscombe$y2)



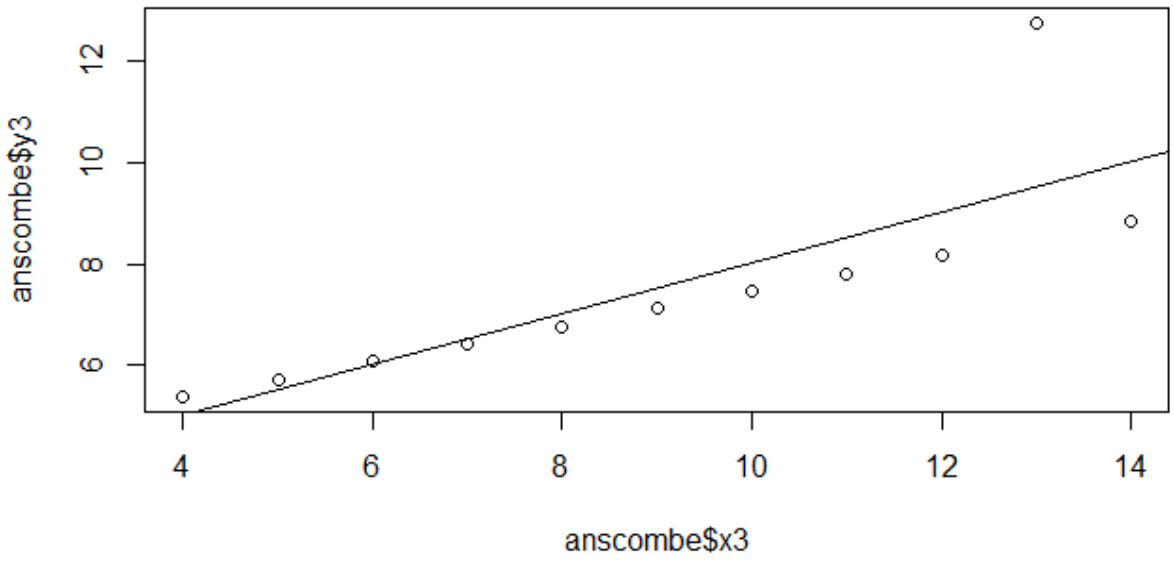
abline(coefficients(lm2))



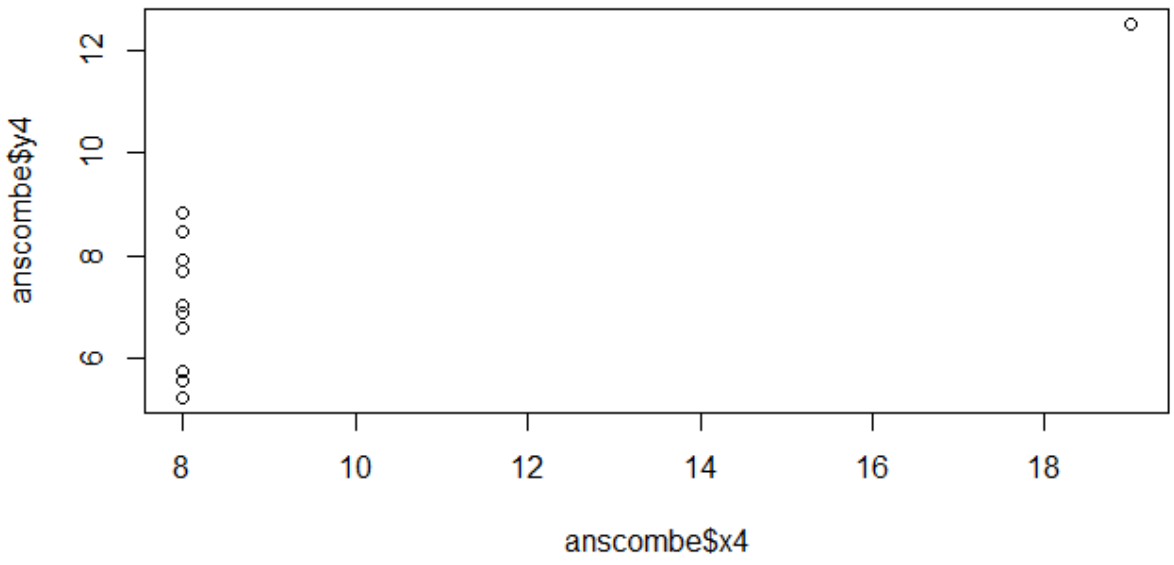
plot(anscombe$x3,anscombe$y3)



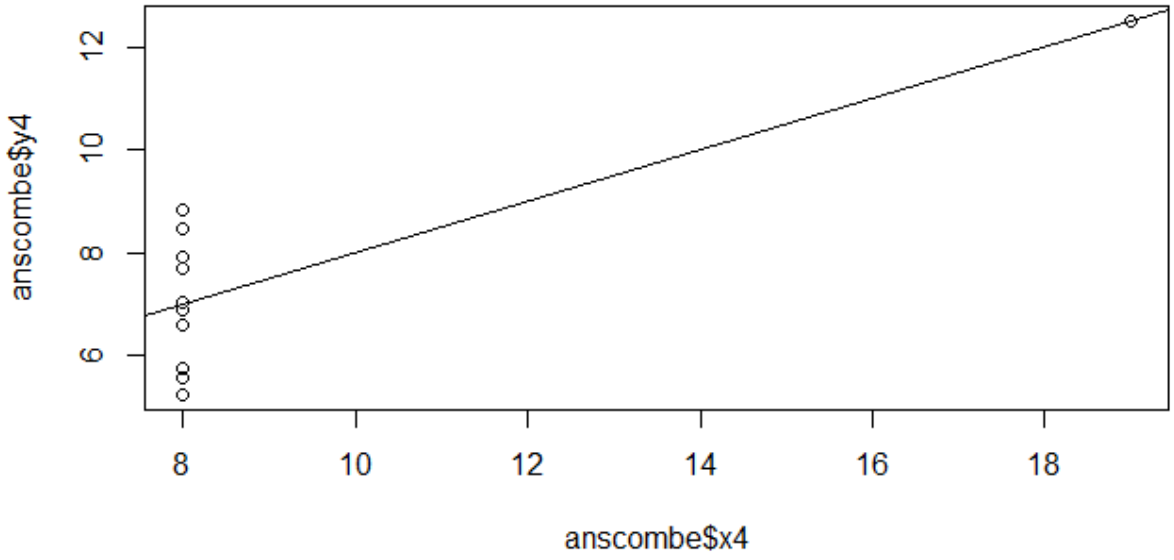
abline(coefficients(lm3))



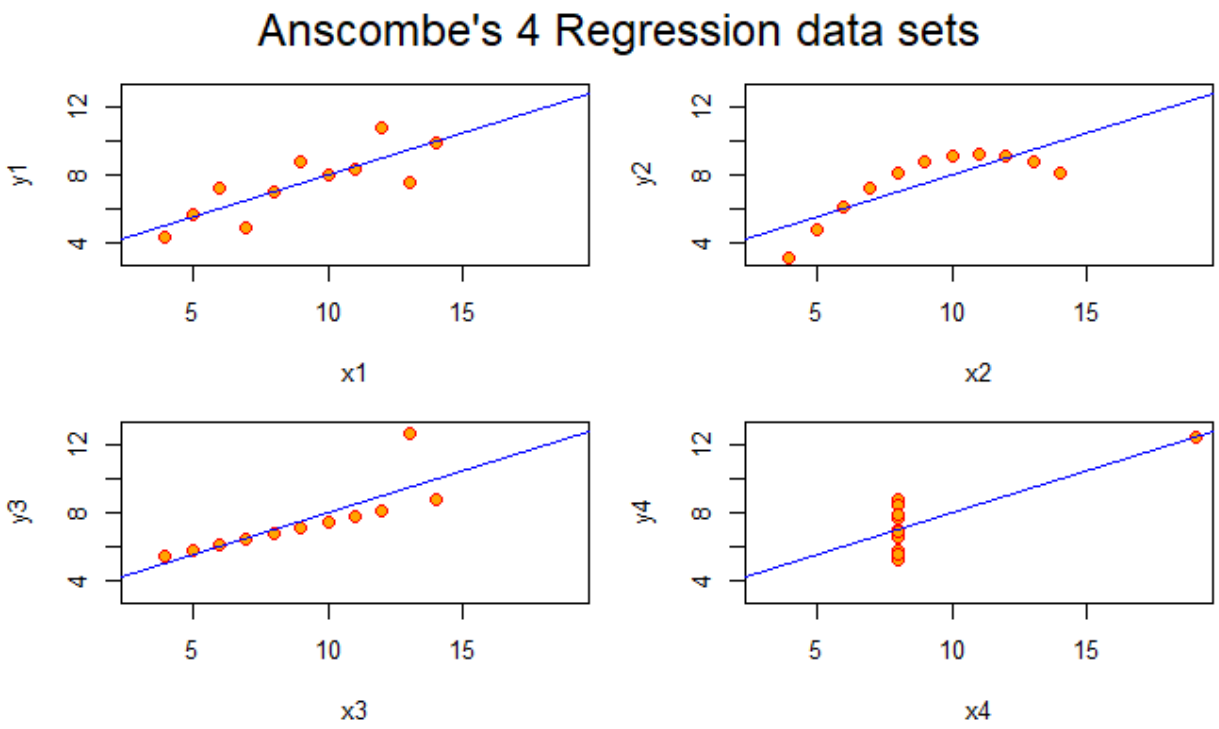
plot(anscombe$x4,anscombe$y4)



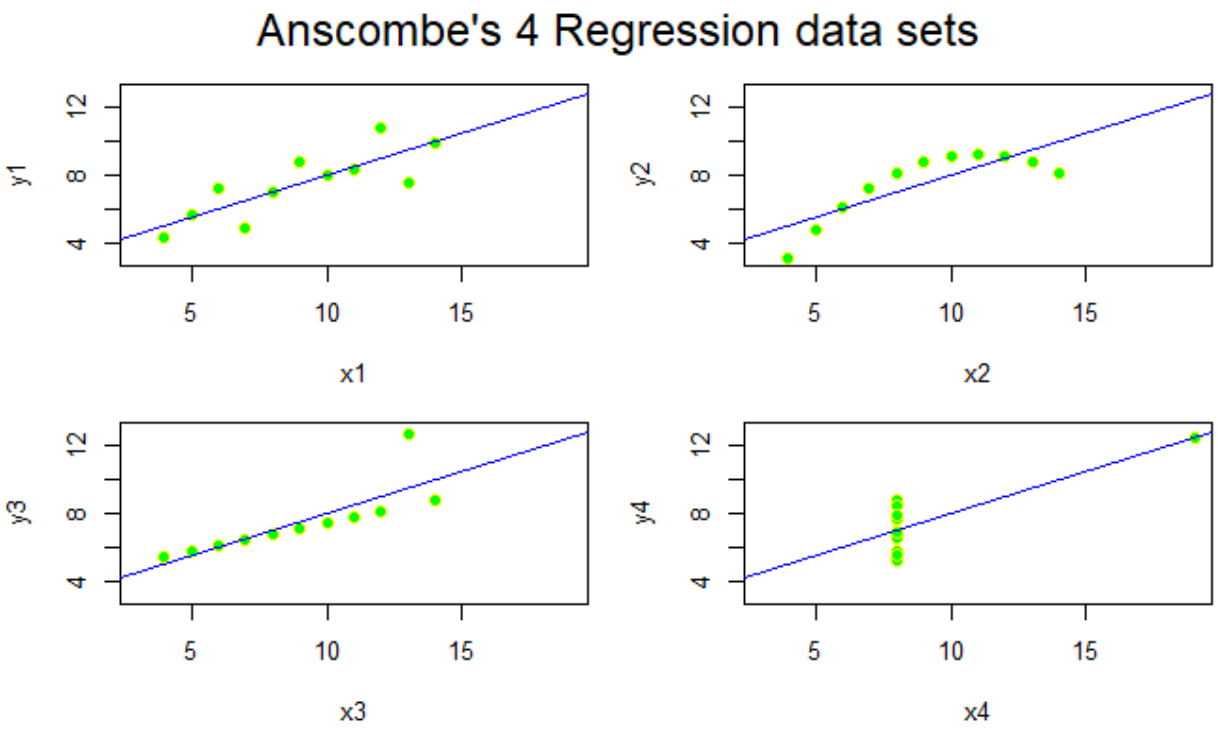
abline(coefficients(lm4))



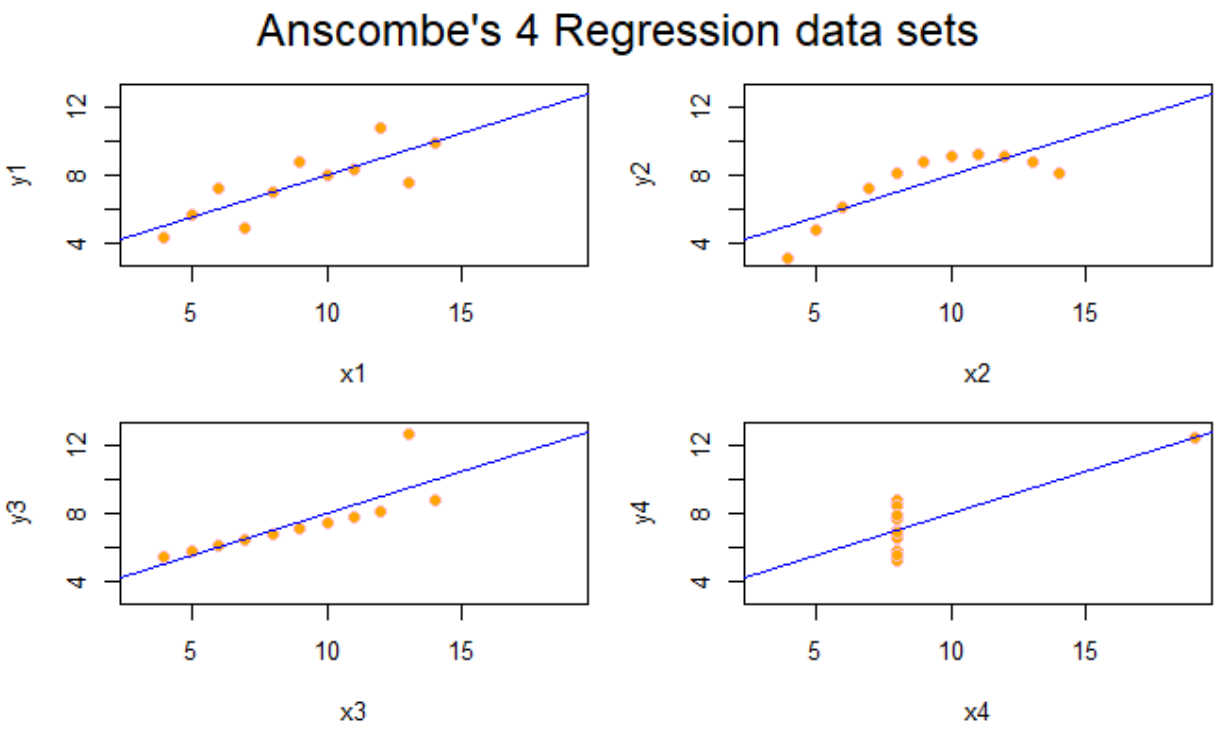
```
# Plot charts using for loop
> for(i in 1:4) {
+ ff[2:3] <- lapply(paste0(c("y","x"), i), as.name)
+ plot(ff, data = anscombe, col = "red", pch = 21, bg = "orange", cex = 1.2,
+ xlim = c(3, 19), ylim = c(3, 13))
+ abline(mods[[i]], col = "blue")
+ }
> mtext("Anscombe's 4 Regression data sets", outer = TRUE, cex = 1.5)
> par(op)
```



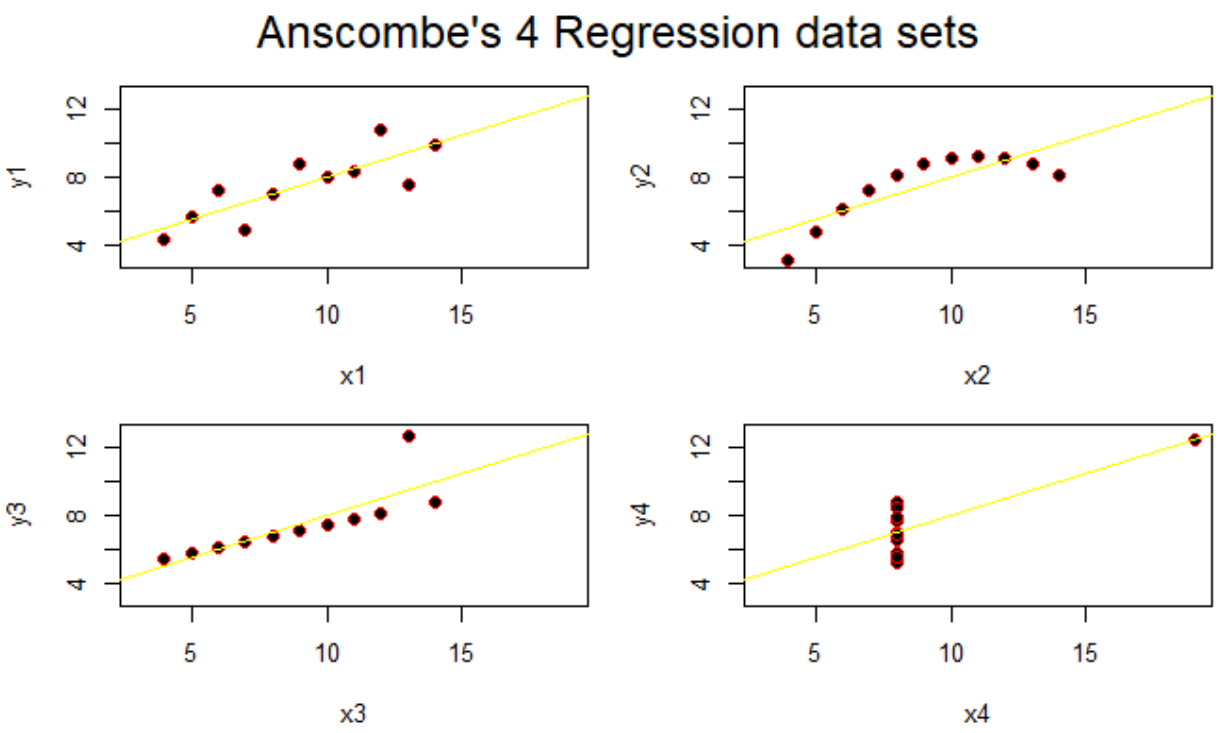

```
# Preparing for the plots
> op <- par(mfrow = c(2, 2), mar = 0.1+c(4,4,1,1), oma =  c(0, 0, 2, 0))
>
> # Plot charts using for loop
> for(i in 1:4) {
+     ff[2:3] <- lapply(paste0(c("y","x"), i), as.name)
+     plot(ff, data = anscombe, col = "yellow", pch = 21, bg = "green", cex = 1.2,
+          xlim = c(3, 19), ylim = c(3, 13))
+     abline(mods[[i]], col = "blue")
+ }
> mtext("Anscombe's 4 Regression data sets", outer = TRUE, cex = 1.5)
> par(op)
>
```




```
# Preparing for the plots
> op <- par(mfrow = c(2, 2), mar = 0.1+c(4,4,1,1), oma =  c(0, 0, 2, 0))
>
> # Plot charts using for loop
> for(i in 1:4) {
+     ff[2:3] <- lapply(paste0(c("y","x"), i), as.name)
+     plot(ff, data = anscombe, col = "pink", pch = 21, bg = "orange", cex = 1.2,
+          xlim = c(3, 19), ylim = c(3, 13))
+     abline(mods[[i]], col = "blue")
+ }
> mtext("Anscombe's 4 Regression data sets", outer = TRUE, cex = 1.5)
> par(op)
```




```
# Preparing for the plots
> op <- par(mfrow = c(2, 2), mar = 0.1+c(4,4,1,1), oma =  c(0, 0, 2, 0))
>
> # Plot charts using for loop
> for(i in 1:4) {
+     ff[2:3] <- lapply(paste0(c("y","x"), i), as.name)
+     plot(ff, data = anscombe, col = "red", pch = 21, bg = "black", cex = 1.2,
+          xlim = c(3, 19), ylim = c(3, 13))
+     abline(mods[[i]], col = "yellow")
+ }
> mtext("Anscombe's 4 Regression data sets", outer = TRUE, cex = 1.5)
> par(op)
```


Anscombe's 4 Regression data sets
y1
y2
y3
y4
x1
x2
x3
x4
4
8
12
5
10
15