# Thesis 2014 - Figures

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This is the file I used for all animated figures used in my thesis defence.

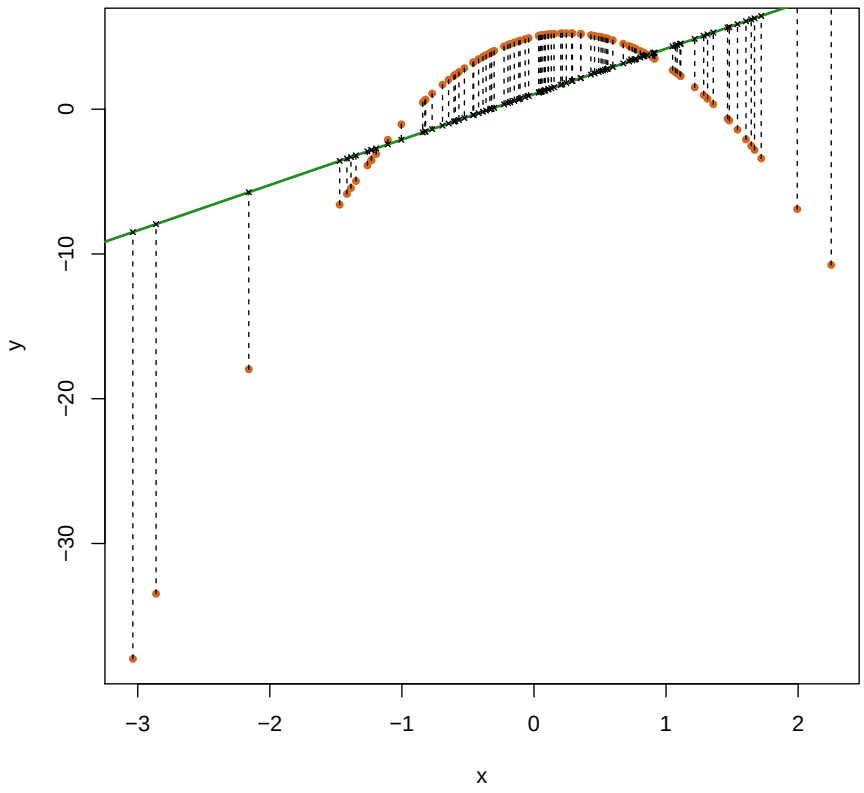
```
cat("Hello World\n")

## Hello World
```

Try to animation package. I think I will be using ImageMagick and SWFtools.

```
require(animation)
```

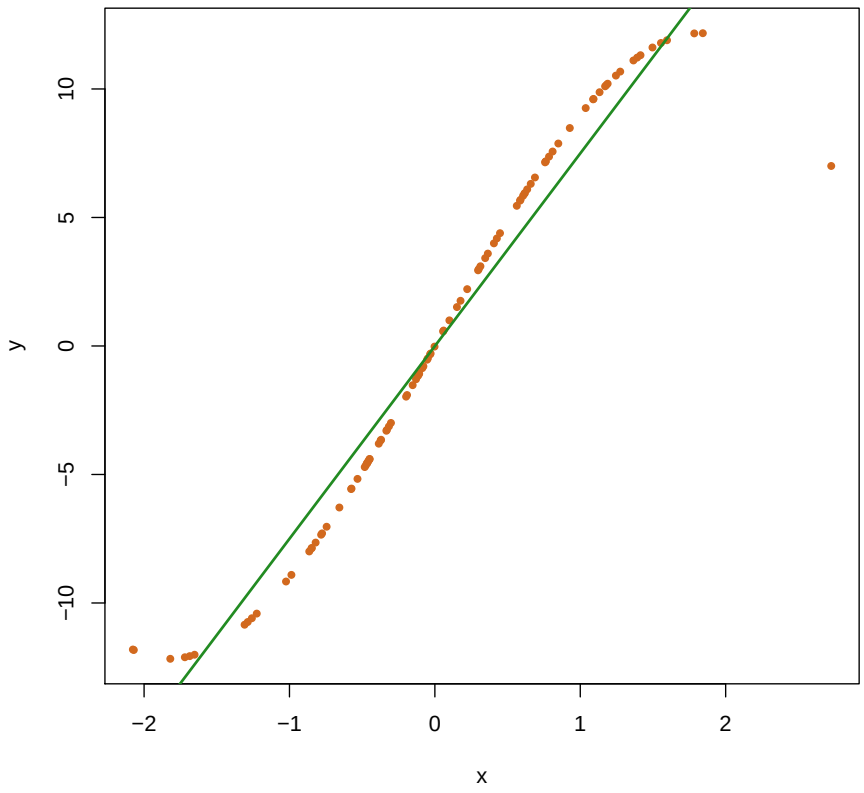
Simulate static data.

```
x <- rnorm(100)
y <- 5 + 2 * x - 4 * x^2
fit <- lm(y ~ x)
plot(y ~ x, col = "chocolate", pch = 20)
abline(fit, col = "forestgreen", lwd = 2)
pred <- predict(fit)
segments(x, y, x, pred, lty = "dashed")
points(x, pred, pch = 4, cex = 0.5)
```




Build a function to draw a **static** simulated data.

```
lineaire <- function(a) {
    x <- rnorm(a)
    y <- 10 * x - x^3
    fit <- lm(y ~ x)
    plot(y ~ x, col = "chocolate", pch = 20)
    abline(fit, col = "forestgreen", lwd = 2)
}
lineaire(100)
```




Try to animate a for loop.

```
frames = 100

for (i in 1:frames) {
    ## create a name for each plot
    if (i < 10) {
        name = paste("000", i, "plot.png", sep = "")
    }
    if (i < 100 && i >= 10) {
        name = paste("00", i, "plot.png", sep = "")
    }
    if (i >= 100) {
        name = paste("0", i, "plot.png", sep = "")
    }

    x <- rnorm(frames)
```

```
    y <- 10 * x[i] - x[i]^3
    # fit <- lm(y~x)

    png(name)
    plot(y ~ x, pch = 20, col = "chocolate")
    # dev.off()
}

## Error:  variable lengths differ (found for 'x')
```

Plot the number of species that have been extinct in the wild since 1500.

```
species <- read.table("clipboard", sep = "\t", header = T)
require(ggplot2)
ggplot(species, aes(x = Espce, y = Organisme)) + geom_bar(colour = "black",
    fill = "#DD8888", width = 0.7, stat = "identity")

## Error:  object 'Espce' not found
```