Review of R

STA 360: Lab 1, Fall 2020 (This will not be graded or turned in)

Today's agenda: A review of R, getting used to R markdown, vectors, matrices, scatterplots, and functions.

Lab Tasks

1. Store three vectors using rnorm() of length $n = 100$ as Var1, Var2, and Var3.

```
# Store n
n <- 100
# Set vectors
set.seed(1)
Var1 <- rnorm(n = n)
set.seed(2)
Var2 <- rnorm(n = n)
set.seed(3)
Var3 <- rnorm(n = n)
```

2. List all the items currently in the environment.

```
ls()
```

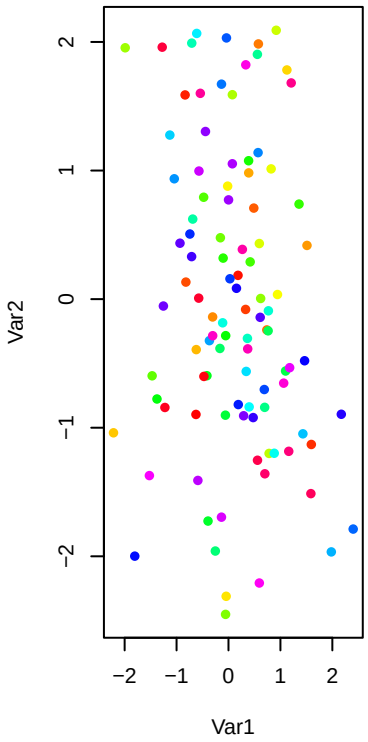
```
## [1] "n"    "Var1" "Var2" "Var3"
```

3. Store Var1 in a 10×10 matrix. Call this myMatrix.

```
myMatrix <- matrix(data = Var1, nrow = 10, ncol = 10)
```

4. Create a scatterplot of Var1 vs. Var2. On the same plotting window include histograms of Var1 and Var2.

```
library(ggplot2)
par(mfrow = c(1,3))
plot(Var1, Var2, pch = 16, col = rainbow(n))
```



5. Write a function that takes as its inputs, $p = 2$, n-dimensional vectors and a vector of length p containing the names of these vectors. Your function combine these two vectors into a data.frame(), get the row-wise maximum and store this in a new vector. Finally produce a box-plot of this vector, store it as a separate .pdf, and return the mean value of this vector.