

Intro R Assignment 1

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In this document, I have answered each question beginning with the code sequence used (in *italics*). This was done not only to explain my work, but to preserve the functions used for my own future reference.

First I read in the dataset

```
tgpp <- read.csv('./tgpp.csv')
```

1) What are the names of the columns in this dataset?

```
names(tgpp)
```

```
## [1] "plot"      "year"      "record_id" "corner"    "scale"
## [6] "richness"  "easting"   "northing"  "slope"     "ph"
## [11] "yrsslb"
```

2) How many rows and columns does this data file have?

```
dim(tgpp)
```

```
## [1] 4080  11
```

4080 rows and 11 columns

3) What kind of object is each data column? Hint: checkout the function `sapply()`

```
sapply(tgpp, class)
```

```
##      plot      year record_id  corner      scale richness easting
## "integer" "integer" "integer" "integer" "numeric" "integer" "integer"
## northing      slope          ph  yrsslb
## "integer" "integer" "numeric" "numeric"
```

4) What are the values of the datafile for rows 1, 5, and 8 at columns 3, 7, and 10?

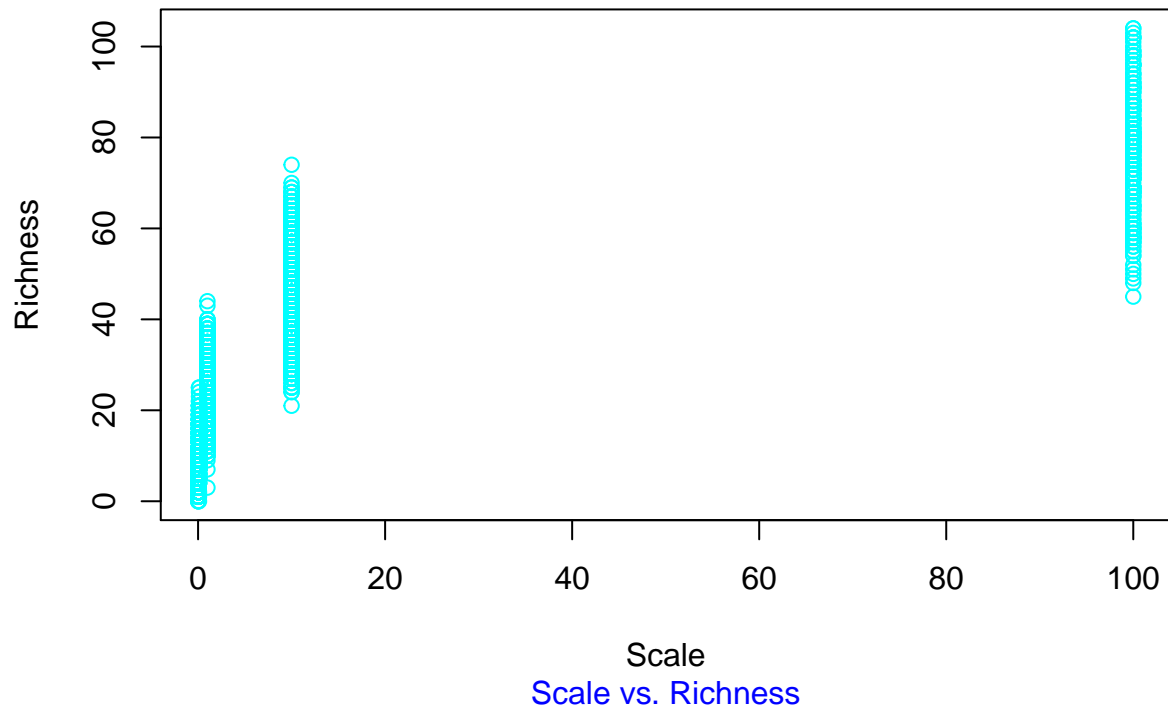
```
tgpp[c(1, 5, 8), c(3, 7, 10)]
```

```
##      record_id easting  ph
## 1          187  727000 6.9
## 5          191  727000 6.9
## 8          194  727000 6.9
```

5) Create a pdf of the relationship between the variables “scale” and “richness”. Scale is the area in square meters of the quadrat in which richness was recorded. Be sure to label your axes clearly, and choose a color you find pleasing for the points. To get a list of available stock colors use the function `colors()`.

```
plot(tgpp$scale, tgpp$richness, xlab = "Scale", ylab = "Richness", col="125")
title(main="Tallgrass Prairie Preserve", col.main="red", sub="Scale vs. Richness", col.sub="blue")
```

Tallgrass Prairie Preserve



6) What happens to your plot when you set the plot argument `log` equal to `'xy'`? `plot(..., log='xy')`

```
plot(tgpp$scale, tgpp$richness, xlab = "Scale", ylab = "Richness", col="125", log='xy')
```

```
## Warning in xy.coords(x, y, xlabel, ylabel, log): 4 y values <= 0 omitted  
## from logarithmic plot
```

```
title(main="Tallgrass Prairie Preserve", col.main="red", sub="Scale vs. Richness", col.sub="blue")
```

Tallgrass Prairie Preserve

