Assignment 1

Zach Proux

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```
library(knitr)
opts_knit$set(root.dir='../')
```

Q1) What are the names of the columns in this dataset?

```
tgpp
```

A1) plot, year, record_id, corner, scale, richness, eastin, northing, slope, ph, yrsslb

Q2) How many rows and columns does this data file have? A2) 4,080

Q3) What kind of object is each data column? Hint: checkout the function sapply(). A3)

```
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"
```

Q4) What are the values of the the datafile for rows 1, 5, and 8 at columns 3, 7, and 10? A4)

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

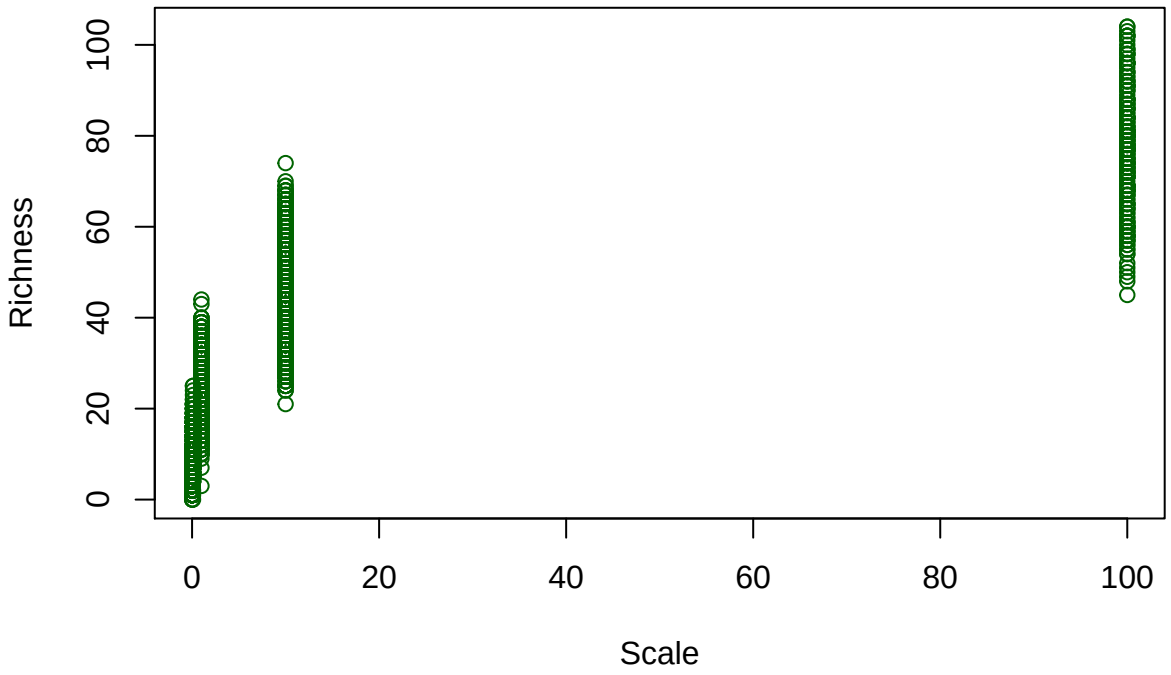
```
##   record_id easting  ph
## 1       187  727000 6.9
## 5       191  727000 6.9
## 8       194  727000 6.9
```

Q5) 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(). A5)

```
pdf("tgpp_plot.pdf")
plot(tgpp$richness~tgpp$scale,xlab="Scale",ylab="Richness",col="darkgreen")
dev.off()
```

```
## pdf
##   2
```

```
plot(tgpp$richness~tgpp$scale,xlab="Scale",ylab="Richness",col="darkgreen")
```



Q6) What happens to your plot when you set the plot argument log equal to 'xy'. plot(..., log='xy') A6)

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

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