STA 602 Homework and Lab Template

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Exercise 1

```
data <- read.table(file = url("http://www2.stat.duke.edu/~pdh10/FCBS/Exercises/azdiabetes.dat"),header=
head(data)
```

```
##   npreg glu bp skin  bmi   ped age diabetes
## 1     5  86 68   28 30.2 0.364  24       No
## 2     7 195 70   33 25.1 0.163  55      Yes
## 3     5  77 82   41 35.8 0.156  35       No
## 4     0 165 76   43 47.9 0.259  26       No
## 5     0 107 60   25 26.4 0.133  23       No
## 6     5  97 76   27 35.6 0.378  52      Yes
```

Exercise 2

```
seq2 = seq(from=0,to=1,by=.01)
seq2
```

```
##    [1] 0.00 0.01 0.02 0.03 0.04 0.05 0.06 0.07 0.08 0.09 0.10 0.11 0.12 0.13 0.14
##   [16] 0.15 0.16 0.17 0.18 0.19 0.20 0.21 0.22 0.23 0.24 0.25 0.26 0.27 0.28 0.29
##   [31] 0.30 0.31 0.32 0.33 0.34 0.35 0.36 0.37 0.38 0.39 0.40 0.41 0.42 0.43 0.44
##   [46] 0.45 0.46 0.47 0.48 0.49 0.50 0.51 0.52 0.53 0.54 0.55 0.56 0.57 0.58 0.59
##   [61] 0.60 0.61 0.62 0.63 0.64 0.65 0.66 0.67 0.68 0.69 0.70 0.71 0.72 0.73 0.74
##   [76] 0.75 0.76 0.77 0.78 0.79 0.80 0.81 0.82 0.83 0.84 0.85 0.86 0.87 0.88 0.89
##   [91] 0.90 0.91 0.92 0.93 0.94 0.95 0.96 0.97 0.98 0.99 1.00
```

Exercise 3

```
seq3 <- seq(from = -3, to = 3, by = .5)
sort(seq3,decreasing=TRUE)
```

```
## [1]  3.0  2.5  2.0  1.5  1.0  0.5  0.0 -0.5 -1.0 -1.5 -2.0 -2.5 -3.0
```

Exercise 4

```
mat5 <- matrix(seq(1,100,1), nrow = 4, ncol = 25, byrow = T)
apply(X = mat5, MARGIN = 1, FUN =var)
```

```
## [1] 54.16667 54.16667 54.16667 54.16667
```

Exercise 5

```
W = rbeta(500,.5,.5)
```
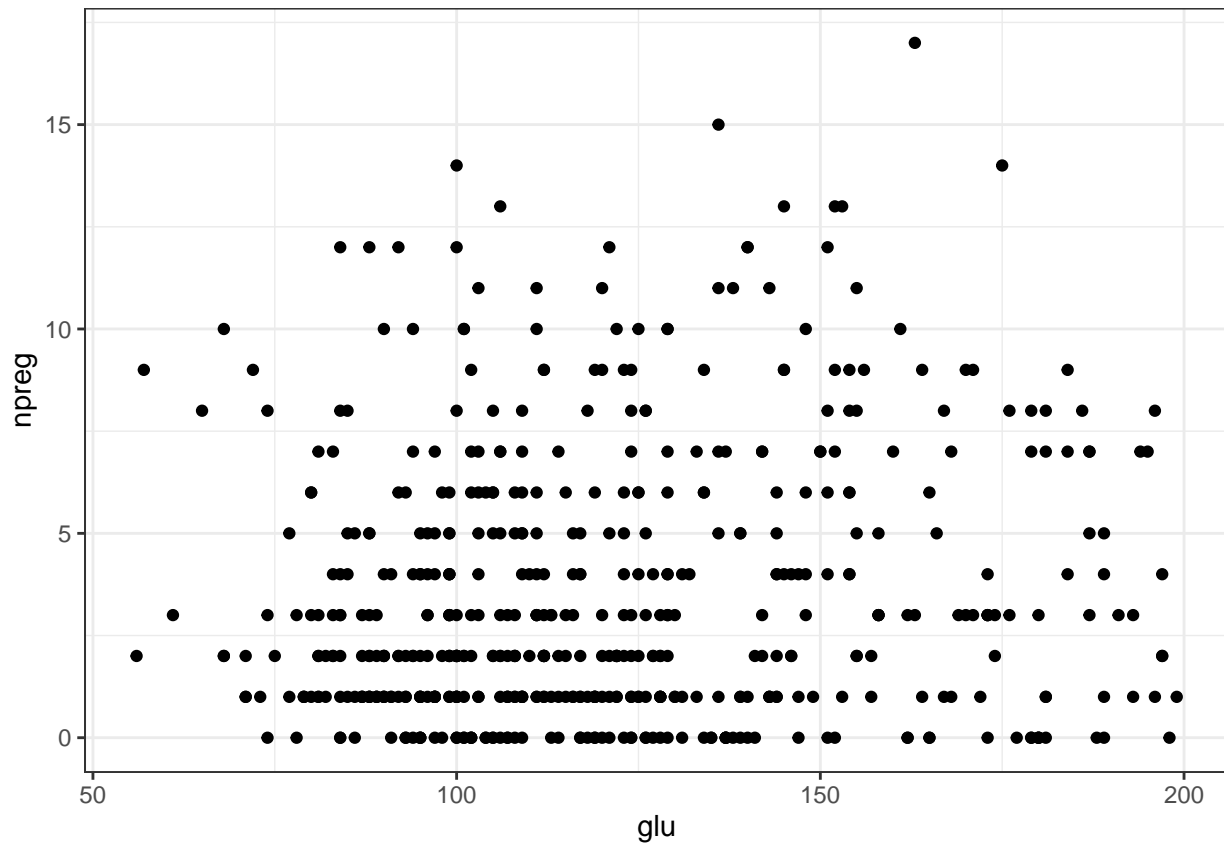
Exercise 6

```
colnames(data)
```

```
## [1] "npreg"     "glu"       "bp"        "skin"      "bmi"       "ped"       "age"
## [8] "diabetes"
```
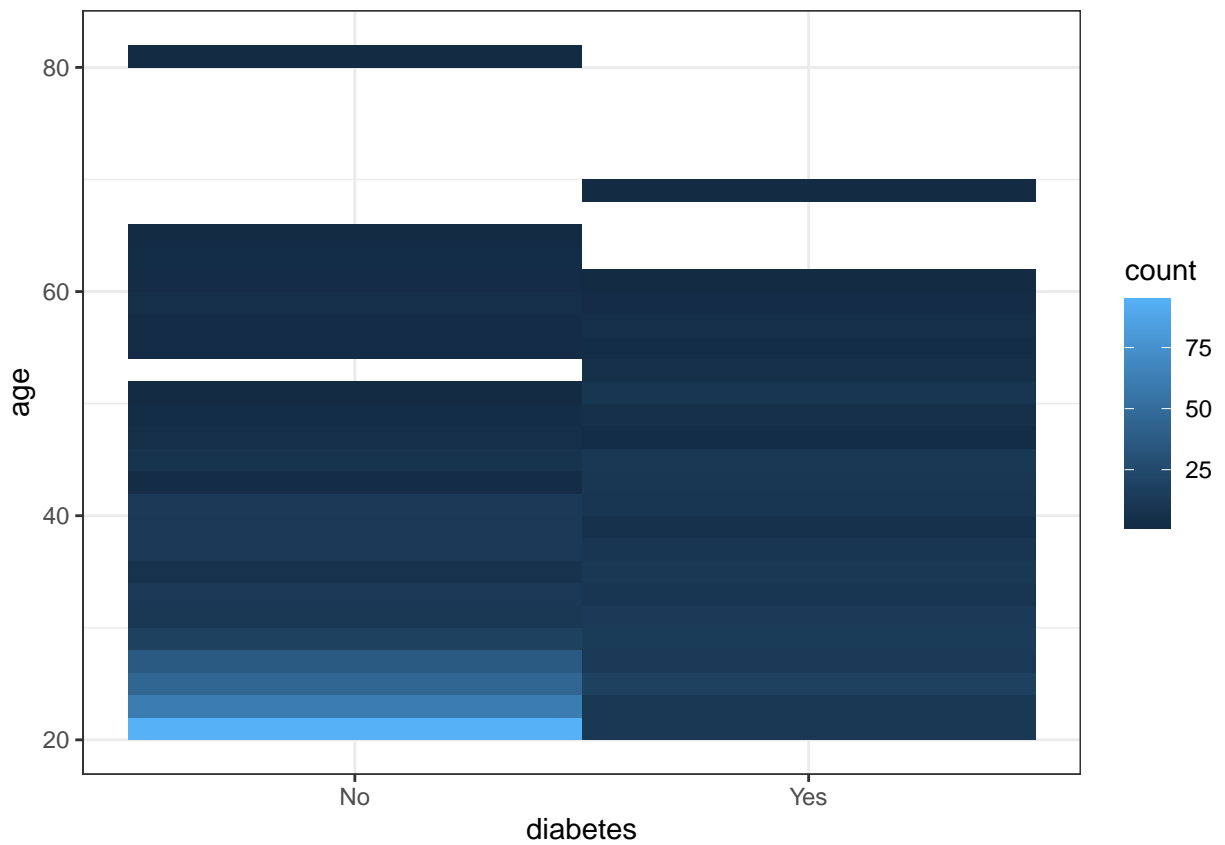
Not looking too interesting below yet.

```
ggplot(data,aes(glu,npreg)) + geom_point()
```


Let's try another plot:

```
ggplot(data,aes(diabetes,age)) + geom_bin2d()
```

```
ggplot(data,aes(bp,age)) + geom_point(color='red')
```