SESSION 7: Basic Statistics

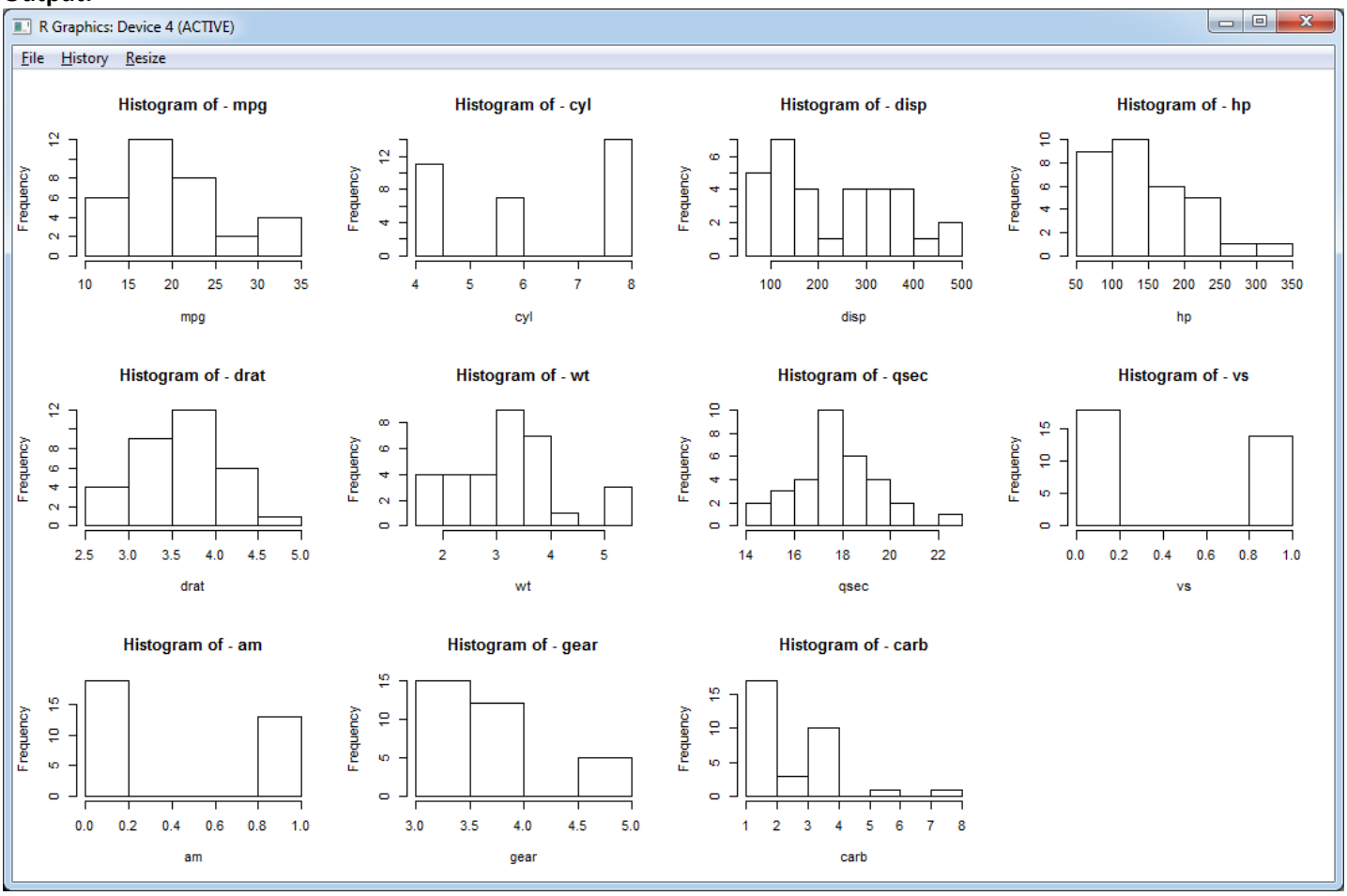
Assignment 1

1. Histogram for all variables in a dataset mtcars.
   Write a program to create histograms for all columns

Answer:

```
windows()
par(mfrow=c(3,4))
for ( i in 1:length(mtcars)){
  hist(mtcars[,i],main=paste("Histogram of -",colnames(mtcars)[i]),xlab=colnames(mtcars)[i])
}
```

Output:

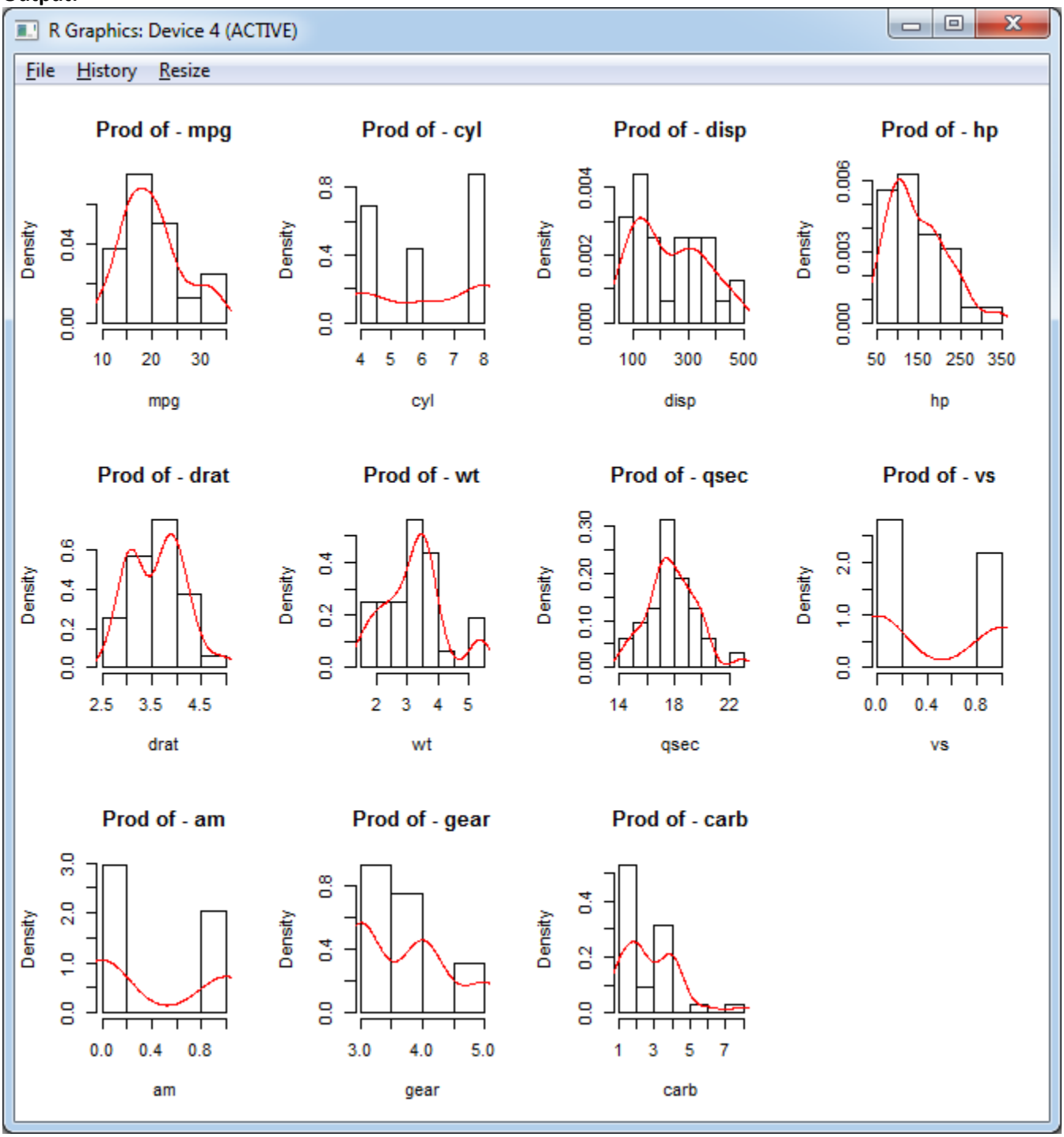


2. Check the probability distribution of all variables in mtcars.

Answer:

```
windows()
par(mfrow=c(3,4))
for ( i in 1:length(mtcars)){
 hist(mtcars[,i],prob=TRUE,main=paste("Prod of -",colnames(mtcars)[i]),xlab=colnames(mtcars)[i])
 lines(density(mtcars[,i],na.rm=T),col="red",lwd=1)
}
```

Output:



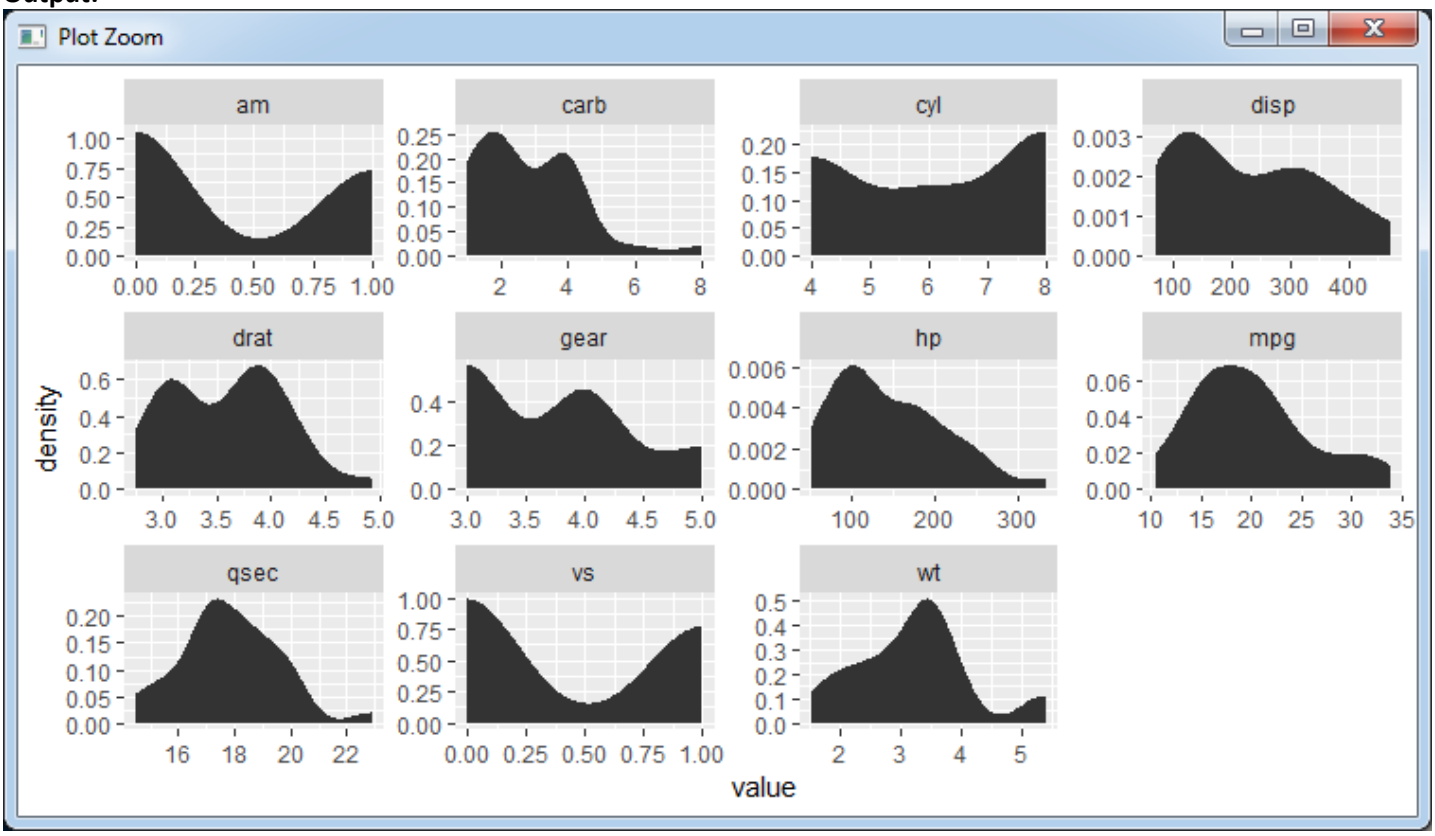
#other way

Answer:

```
library(tidyr)
library(purrr)
library(ggplot2)
library(magrittr)

mtcars %>%
  keep(is.numeric) %>%
  gather() %>%
  ggplot(aes(value)) +
  facet_wrap(~key,scales = "free") +
  stat_density()
```

Output:



3. Write a program to create boxplot for all variables.

Answer:

```
windows()
par(mfrow=c(3,4))
for ( i in 1:length(mtcars)){
  boxplot(mtcars[,i],main=paste("Histogram of -",colnames(mtcars)[i]),xlab=colnames(mtcars)[i])
}
```

Output: