Untitled - R Editor

```r
num = as.integer(readline(prompt = "Enter a number: "))
if(num < 0) {
print("Enter a positive number")
} else {
sum = 0
while(num > 0) {
sum = sum + num
num = num - 1
}
print(paste("The sum is", sum))
}
```

R Console

```r
+ sum = 0
+ while(num > 0) {
+ sum = sum + num
+ num = num - 1
+ }
+ print(paste("The sum is", sum))
+ }
[1] "The sum is 55"
> vector<-c(1:10)
> vector
 [1]  1  2  3  4  5  6  7  8  9 10
> new<-list(vector)
```

```r
#3

vector<-c(1:10)
vector
new<-list(vector)
new

sq<-vector
for (i in new)
{
a=i*i



print(a)}

a<-mtcars
a
#1
dim(a)
#2
summary(a)
```

```
> summary(a)
      mpg             cyl             disp             hp
 Min.   :10.40   Min.   :4.000   Min.   : 71.1   Min.   : 52.0
 1st Qu.:15.43   1st Qu.:4.000   1st Qu.:120.8   1st Qu.: 96.5
 Median :19.20   Median :6.000   Median :196.3   Median :123.0
 Mean   :20.09   Mean   :6.188   Mean   :230.7   Mean   :146.7
 3rd Qu.:22.80   3rd Qu.:8.000   3rd Qu.:326.0   3rd Qu.:180.0
 Max.   :33.90   Max.   :8.000   Max.   :472.0   Max.   :335.0
      drat             wt             qsec             vs
 Min.   :2.760   Min.   :1.513   Min.   :14.50   Min.   :0.0000
 1st Qu.:3.080   1st Qu.:2.581   1st Qu.:16.89   1st Qu.:0.0000
 Median :3.695   Median :3.325   Median :17.71   Median :0.0000
 Mean   :3.597   Mean   :3.217   Mean   :17.85   Mean   :0.4375
 3rd Qu.:3.920   3rd Qu.:3.610   3rd Qu.:18.90   3rd Qu.:1.0000
 Max.   :4.930   Max.   :5.424   Max.   :22.90   Max.   :1.0000
      am             gear             carb
 Min.   :0.0000   Min.   :3.000   Min.   :1.000
 1st Qu.:0.0000   1st Qu.:3.000   1st Qu.:2.000
 Median :0.0000   Median :4.000   Median :2.000
 Mean   :0.4062   Mean   :3.688   Mean   :2.812
 3rd Qu.:1.0000   3rd Qu.:4.000   3rd Qu.:4.000
 Max.   :1.0000   Max.   :5.000   Max.   :8.000
> |
```

```
#2

num = as.integer(readline(prompt = "Enter a number: "))
if(num < 0) {
print("Enter a positive number")
} else {
sum = 0
while (num > 0) {
sum = sum + num
num = num - 1
}
print(paste("The sum is", sum))
}
```

```
+ print(a)}
 [1]   1   4   9  16  25  36  49  64  81 100
> #fibol
> Fibonacci <- numeric(10)
> Fibonacci[1] <- Fibonacci[2] <- 1
> for (i in 3:10) Fibonacci[i] <- Fibonacci[i - 2] + Fibonacci[i - 1]
> print("First 10 Fibonacci numbers:")
[1] "First 10 Fibonacci numbers:"
> print(Fibonacci)
 [1]  1  1  2  3  5  8 13 21 34 55
>
> num = as.integer(readline(prompt = "Enter a number: "))
Enter a number: 10
> if(num < 0) {
```

```
sq<-vector
for (i in new)
{
a=i*i



print(a)}

a<-mtcars
a
#1
dim(a)
#2
summary(a)
#3
mean(a$wt)
```

```
>
> mean(wt)
Error in mean(wt) : object 'wt' not found
>
> mean(a$wt)
[1] 3.21725
> a$cyl <- factor(a$cyl)
> mylm <- lm(mpg ~ cyl, data = a)
> summary(mylm)$coef
              Estimate Std. Error   t value      Pr(>|t|)
(Intercept)  26.663636  0.9718008 27.437347 2.688358e-22
cyl6         -6.920779  1.5583482 -4.441099 1.194696e-04
cyl8        -11.563636  1.2986235 -8.904534 8.568209e-10
> a$cyl <- factor(a$cyl)
> mylm <- lm(mpg ~ cyl, data = a)
> summary(mylm)$coef
              Estimate Std. Error   t value      Pr(>|t|)
(Intercept)  26.663636  0.9718008 27.437347 2.688358e-22
```

```
##3rd

#1

plot(x = a$wt,y = a$disp,
    xlab = "Weight",
    ylab = "disp",
    main = "Weight vs disp",
     col="green"
)

#2

plot(x = a$mpg,y = a$hp,
    xlab = "mpg",
    ylab = "hp",
    main = "mpg vs hp",
     col="red",

)

#5

library(ggplot2)
ggplot(a, aes(hp, fill=factor(vs))) +
  geom_histogram(aes(y=..density..), alpha=0.6, position="identity")
```
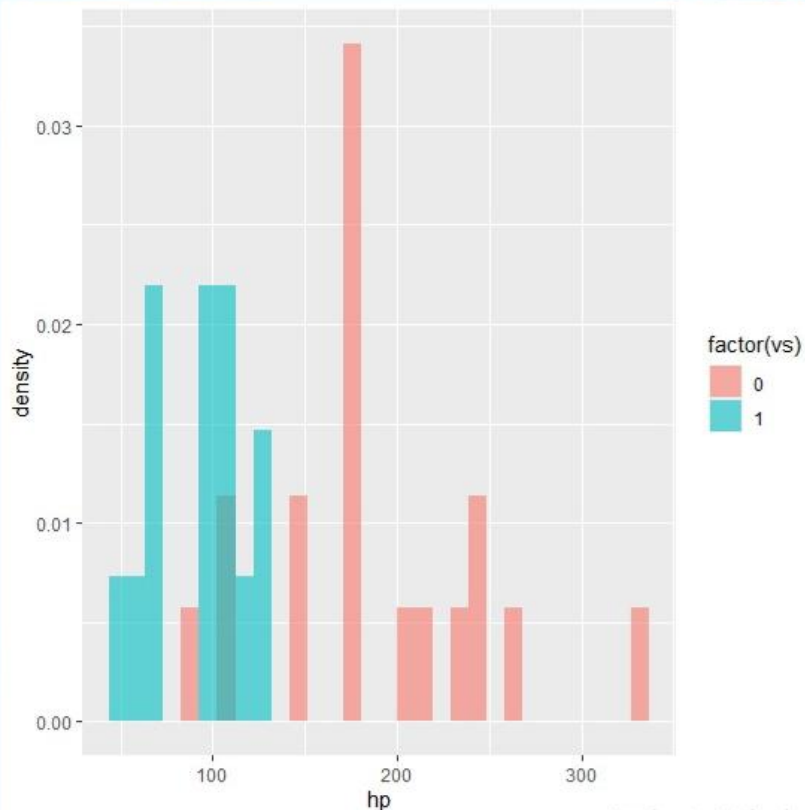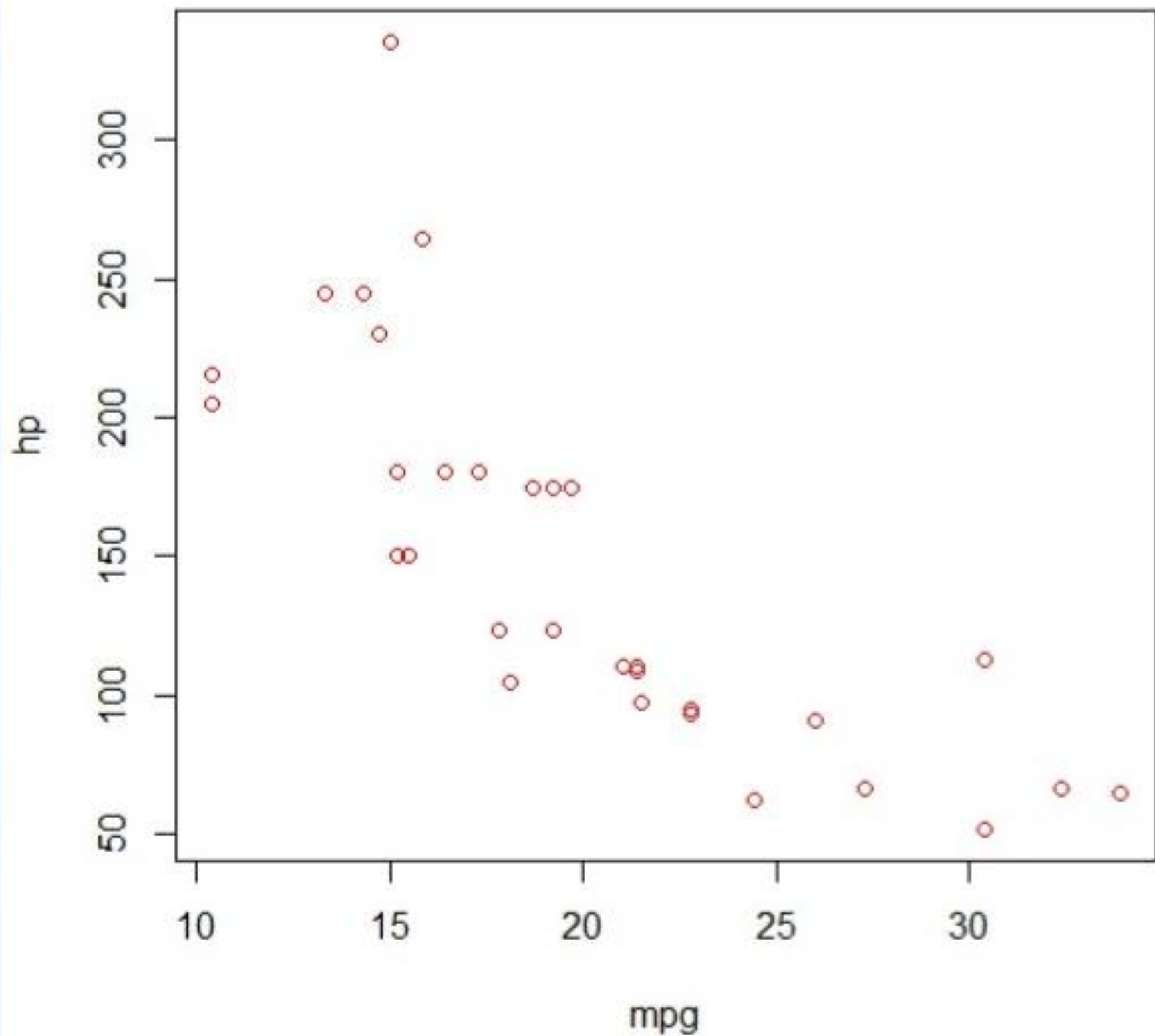
R Editor — Untitled

```r
#4
a$cyl <- factor(a$cyl)
mylm <- lm(mpg ~ cyl, data = a)
summary(mylm)$coef

with(a, tapply(mpg, cyl, mean))

#5

min(a$wt)
max(a$wt)

##3rd

#1

plot(x = a$wt, y = a$disp,
    xlab = "Weight",
    ylab = "disp",
    main = "Weight vs disp",
    col="green"
)
```

R Console

```
Warning mess
1: In plot.w
2: In plot.w
3: In axis(s
   "color" is
4: In axis(s
   "color" is
5: In box(..
6: In title

> plot(x = a
+   xlab =
+   ylab =
+   main =
+   col="g
+ )
Error: unexp
> plot(x = a
+   xlab =
+   ylab =
+   main =
+   col="g
— )
```

Weight vs disp

(scatter plot with y-axis labeled "disp" showing values 100, 200, 300, 400; green points plotted)