Laboratorijske vaje 1

Ana

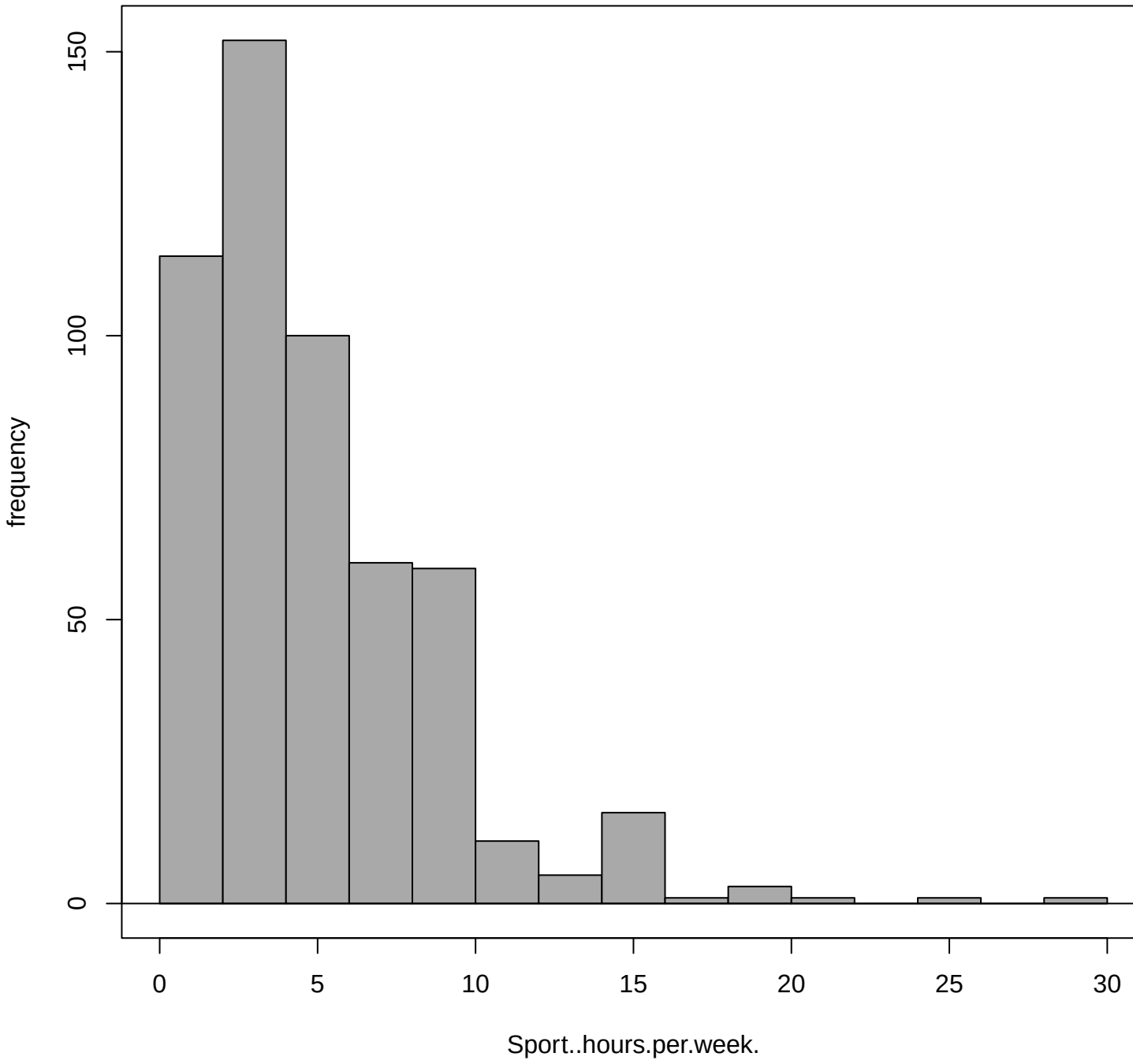
2023-10-12

```
## Loading required package: splines

## Loading required package: RcmdrMisc

## Loading required package: car

## Loading required package: carData

## Loading required package: sandwich

## Loading required package: effects

## lattice theme set by effectsTheme()
## See ?effectsTheme for details.

## The Commander GUI is launched only in interactive sessions

##
## Attaching package: 'Rcmdr'

## The following object is masked from 'package:base':
##
##     errorCondition
```

```
> my.data <-
+   read.table("C:/Users/Ana/Desktop/Statistika BI, BF, SK/2023-24/data.txt",
+   header=TRUE, stringsAsFactors=TRUE, sep="\t", na.strings="NA", dec=".",
+   strip.white=TRUE)
```

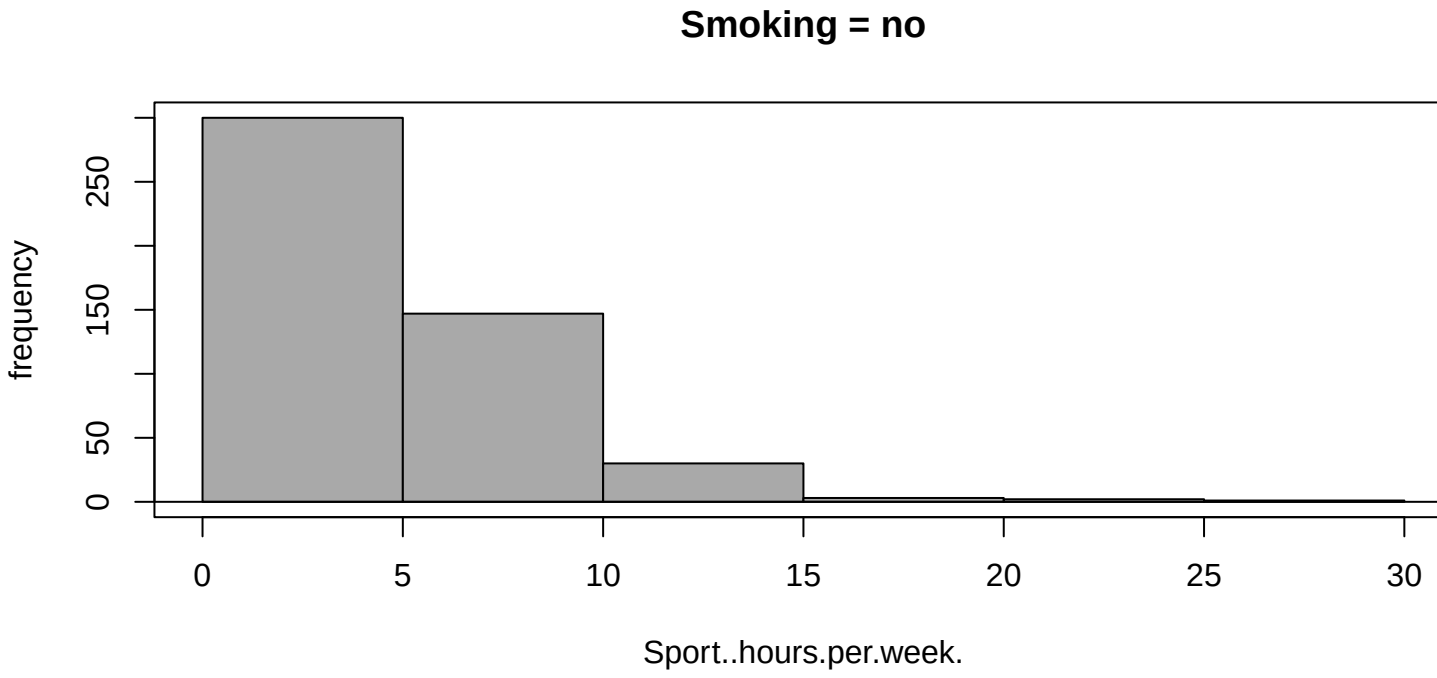
Histogram: Sport..hours.per.week.

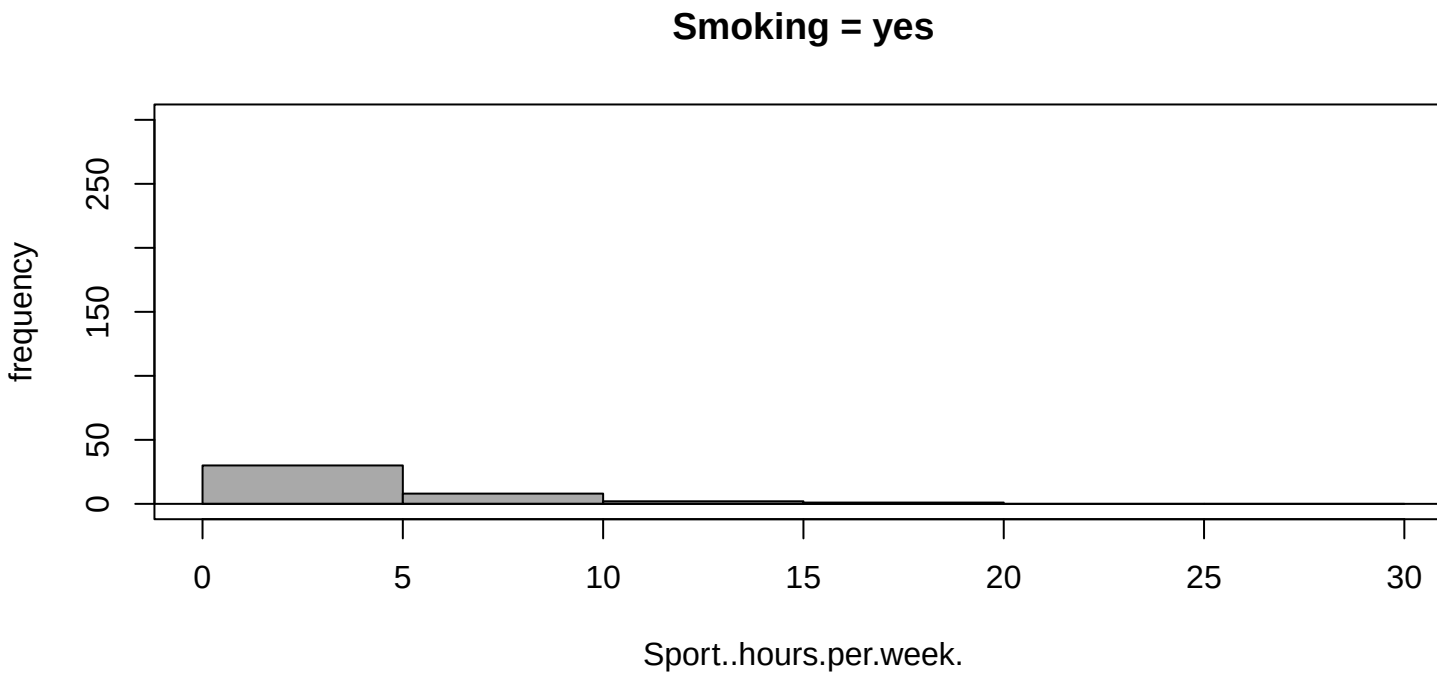
```
> with(my.data, Hist(Sport..hours.per.week., scale="frequency",
+   breaks="Sturges", col="darkgray"))
```



Histogram: Sport..hours.per.week.

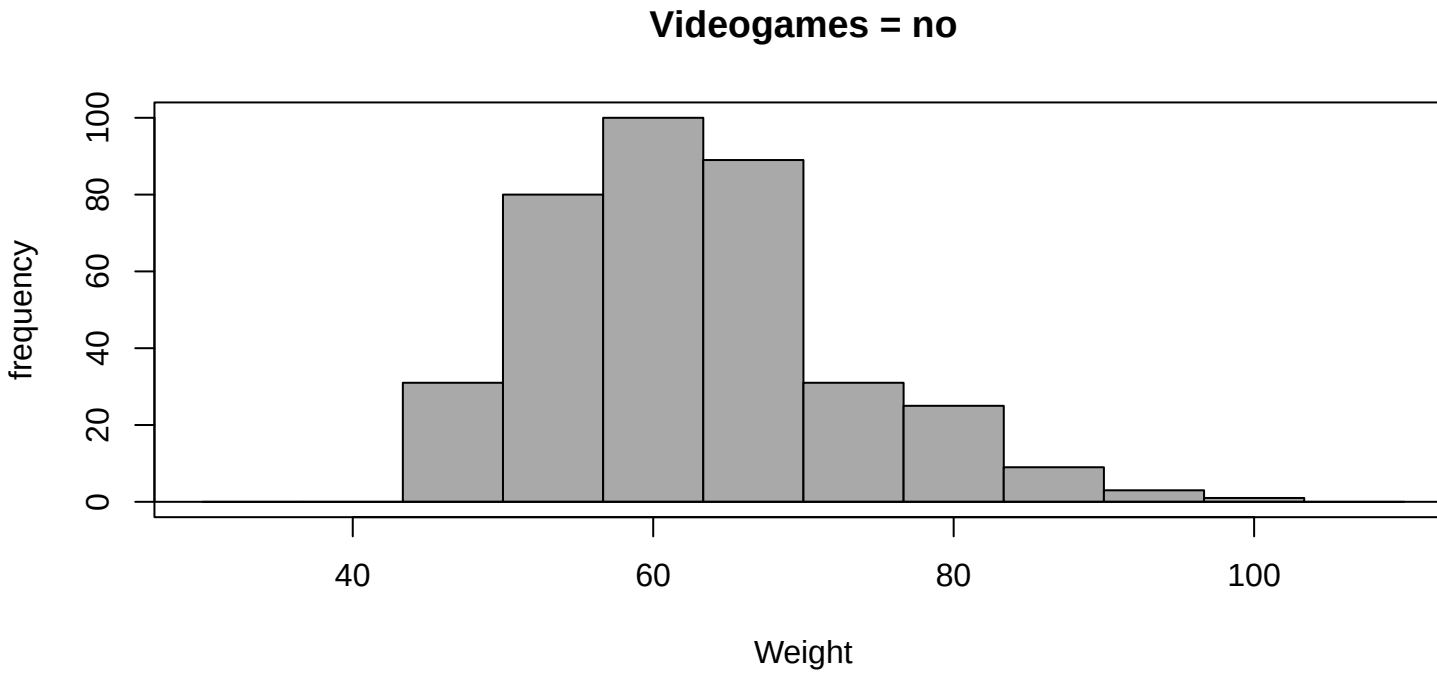
```
> with(my.data, Hist(Sport..hours.per.week., groups=Smoking,
+   scale="frequency", breaks="Sturges", col="darkgray"))
```

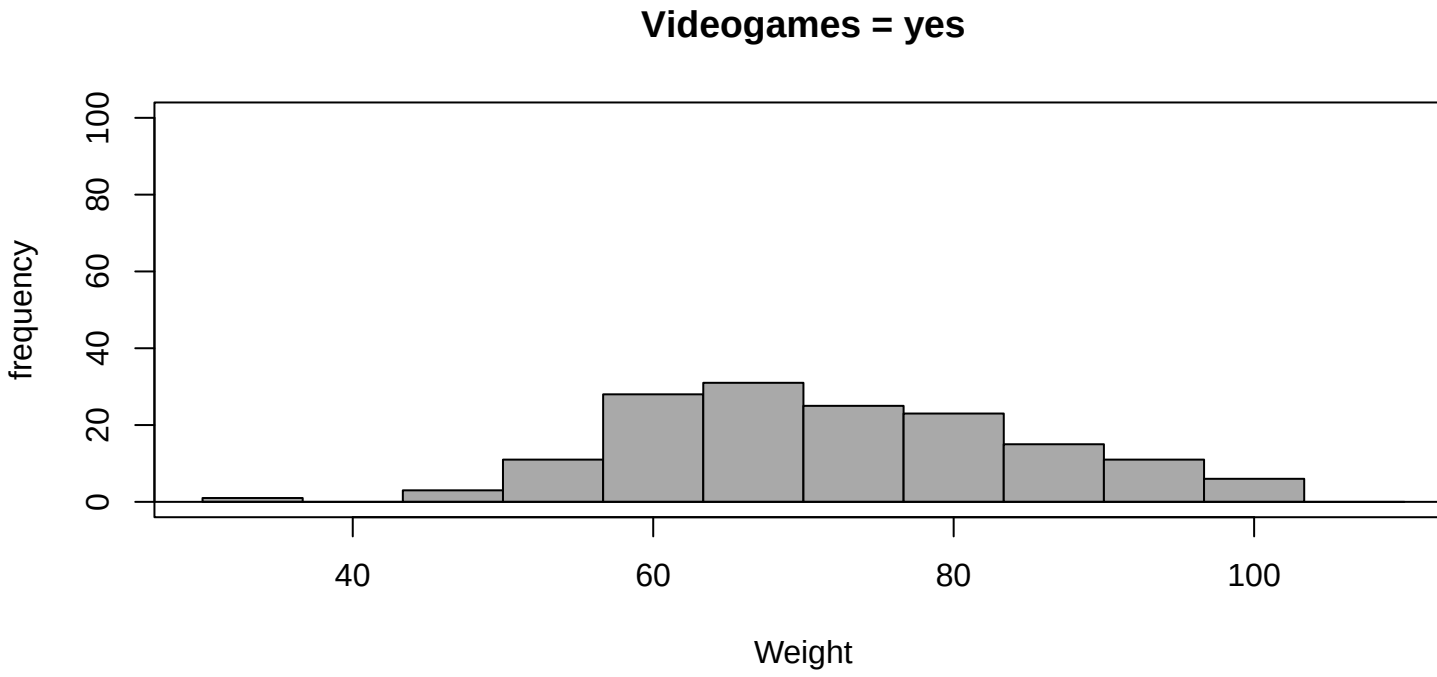




Histogram: Weight

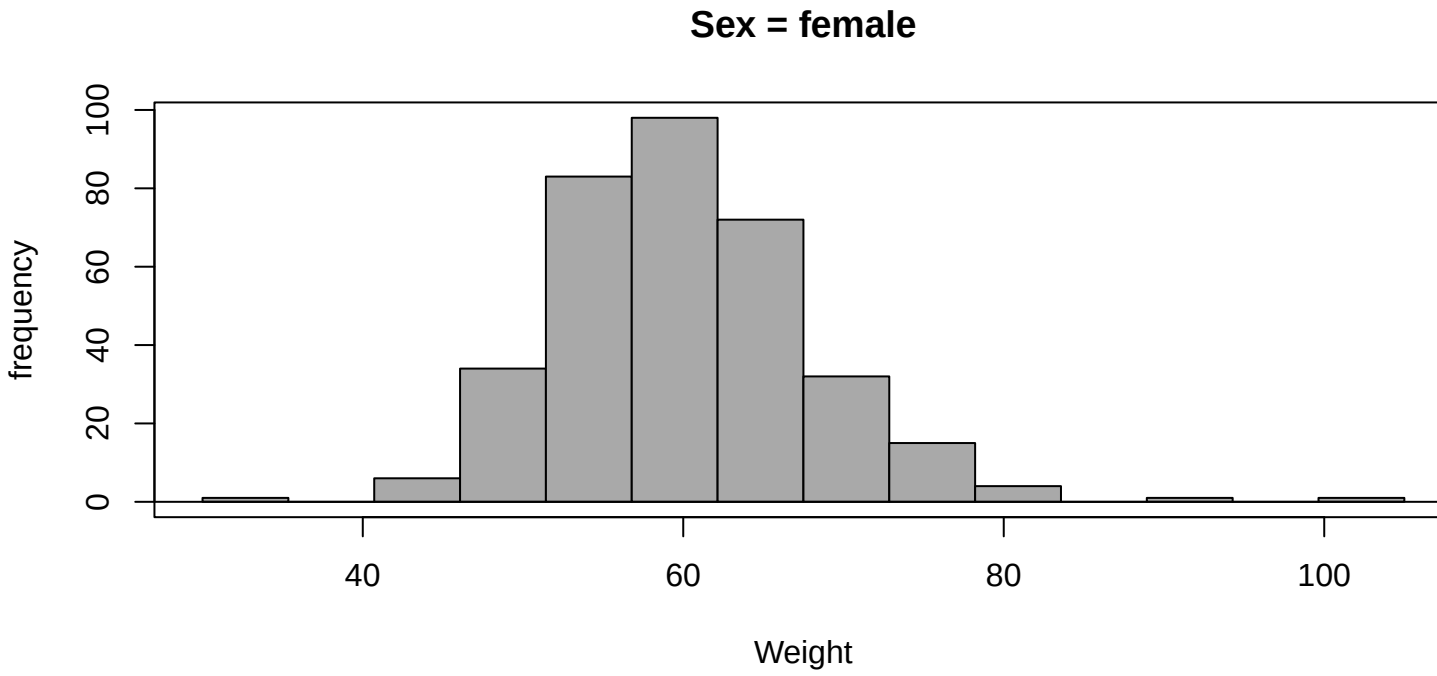
```
> with(my.data, Hist(Weight, groups=Videogames, scale="frequency",
+   breaks="Sturges", col="darkgray"))
```

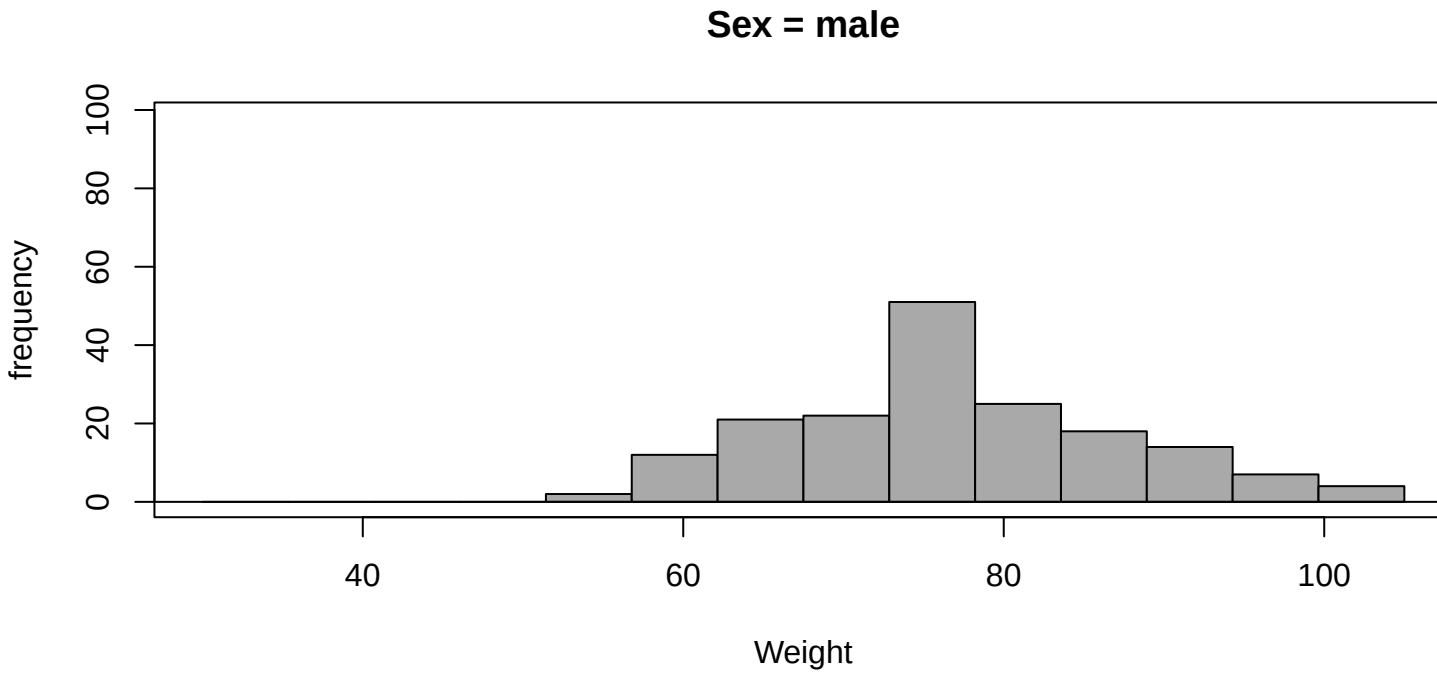




Histogram: Weight

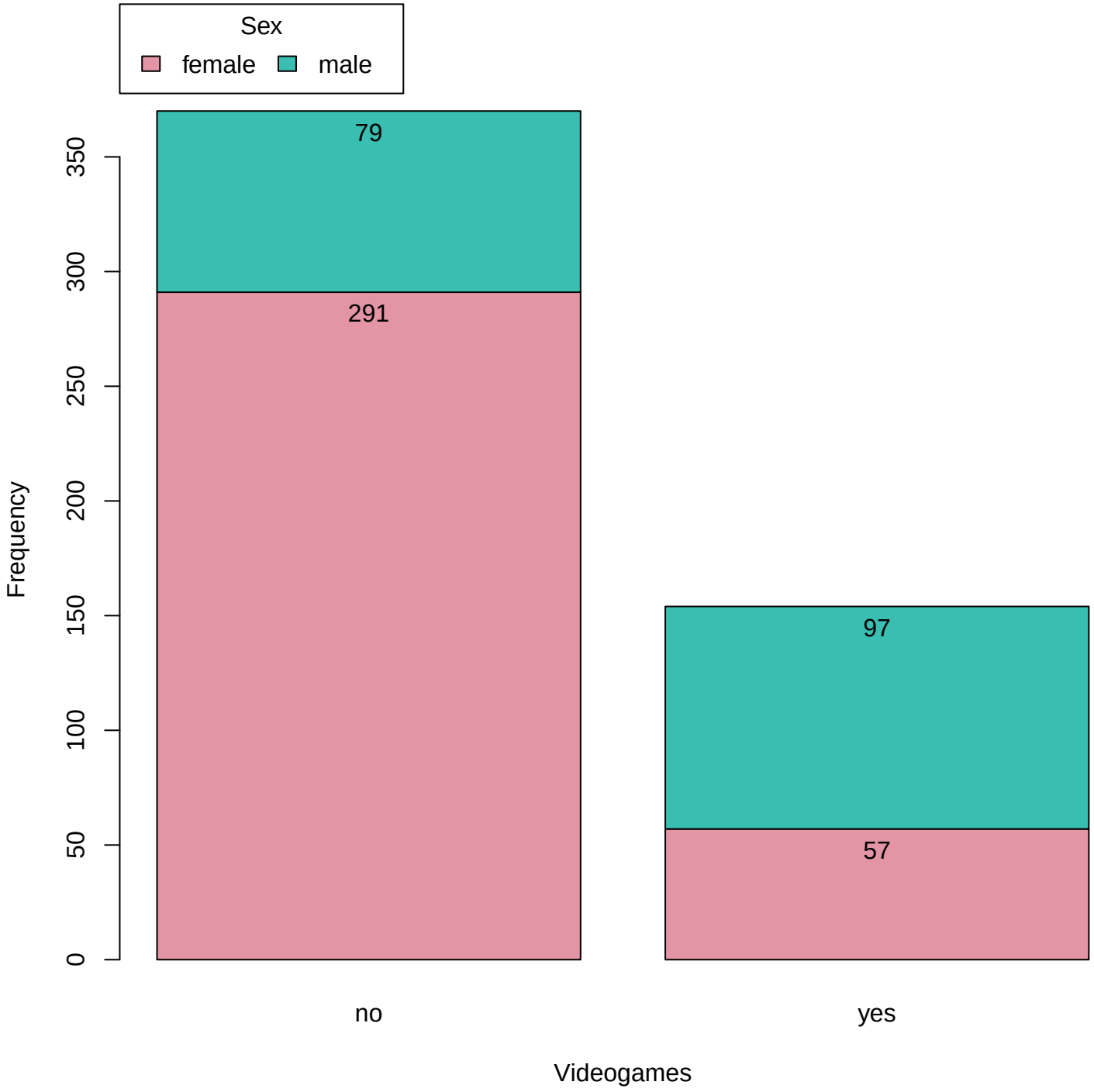
```
> with(my.data, Hist(Weight, groups=Sex, scale="frequency", breaks="Sturges",
+   col="darkgray"))
```





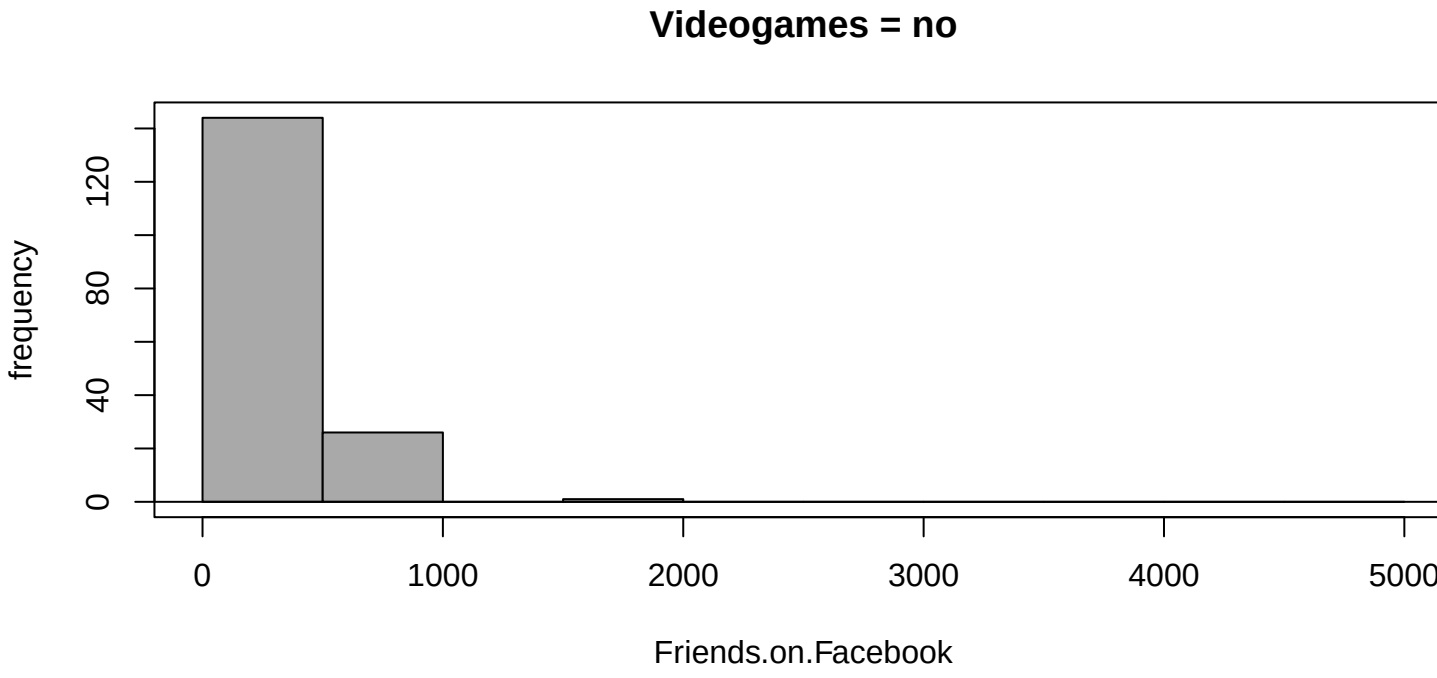
Bar Plot: Videogames

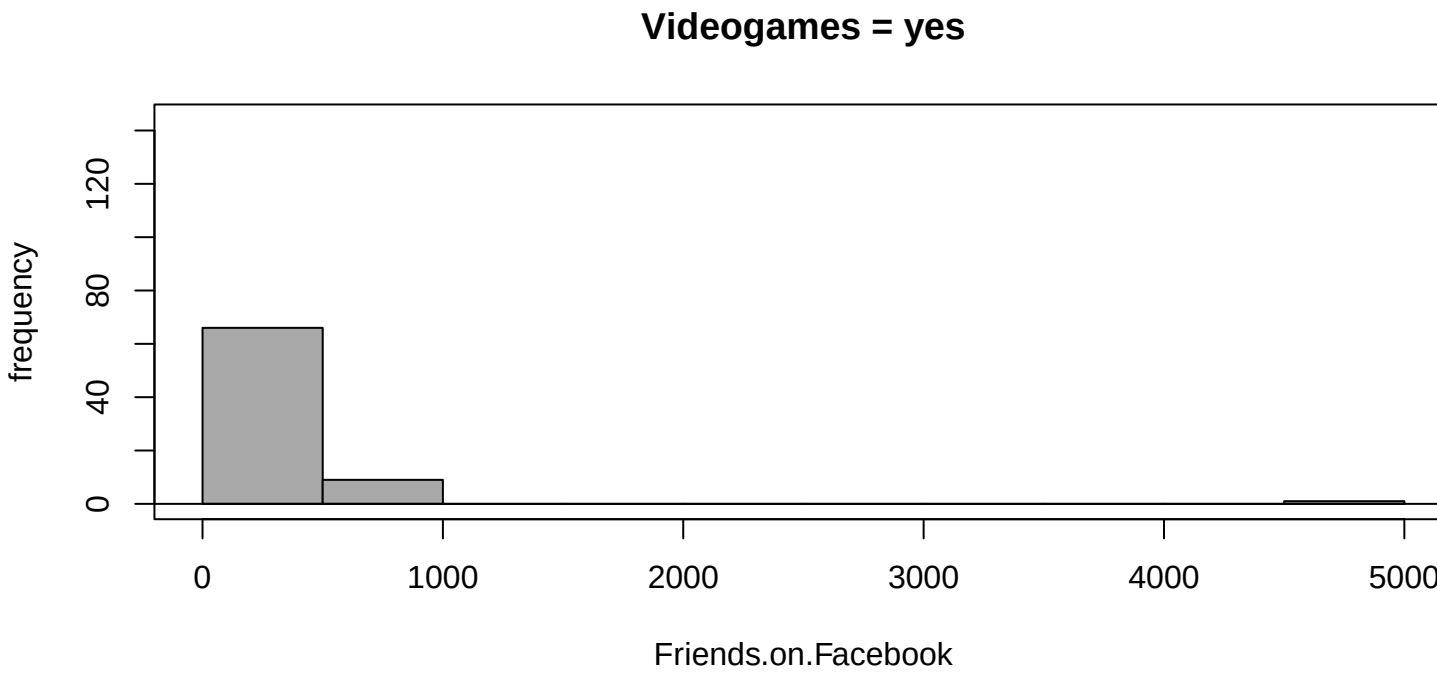
```
> with(my.data, Barplot(Videogames, by=Sex, style="divided",
+   legend.pos="above", xlab="Videogames", ylab="Frequency", label.bars=TRUE))
```



Histogram: Friends.on.Facebook

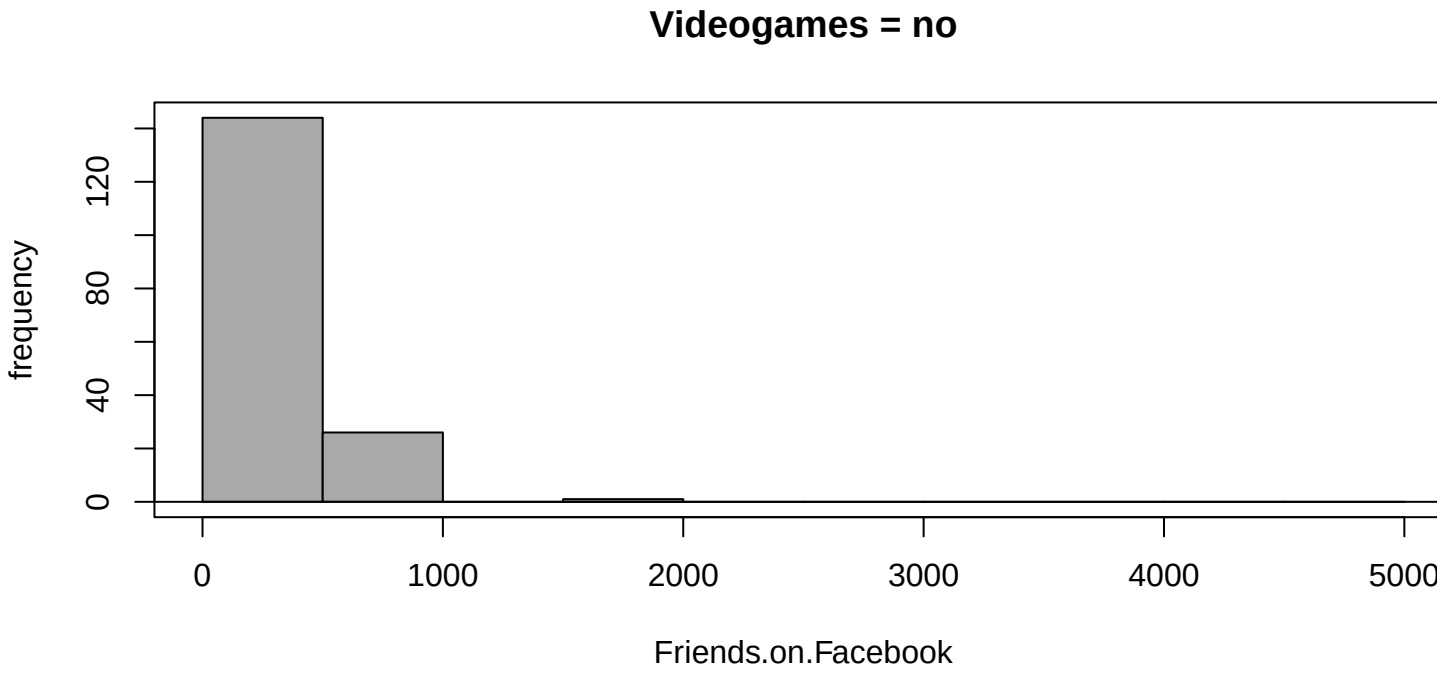
```
> with(my.data, Hist(Friends.on.Facebook, groups=Videogames,
+   scale="frequency", breaks="Sturges", col="darkgray"))
```

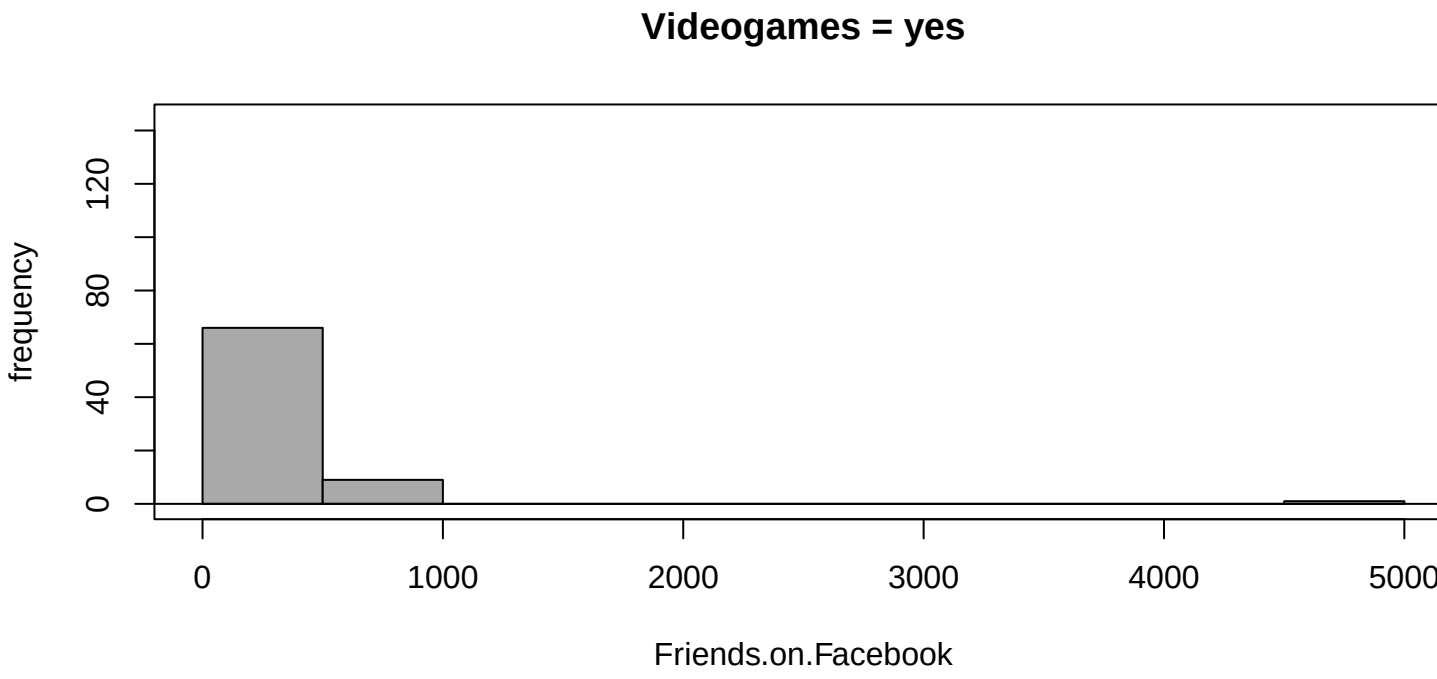




Histogram: Friends.on.Facebook

```
> with(my.data, Hist(Friends.on.Facebook, groups=Videogames,
+   scale="frequency", breaks="Sturges", col="darkgray"))
```

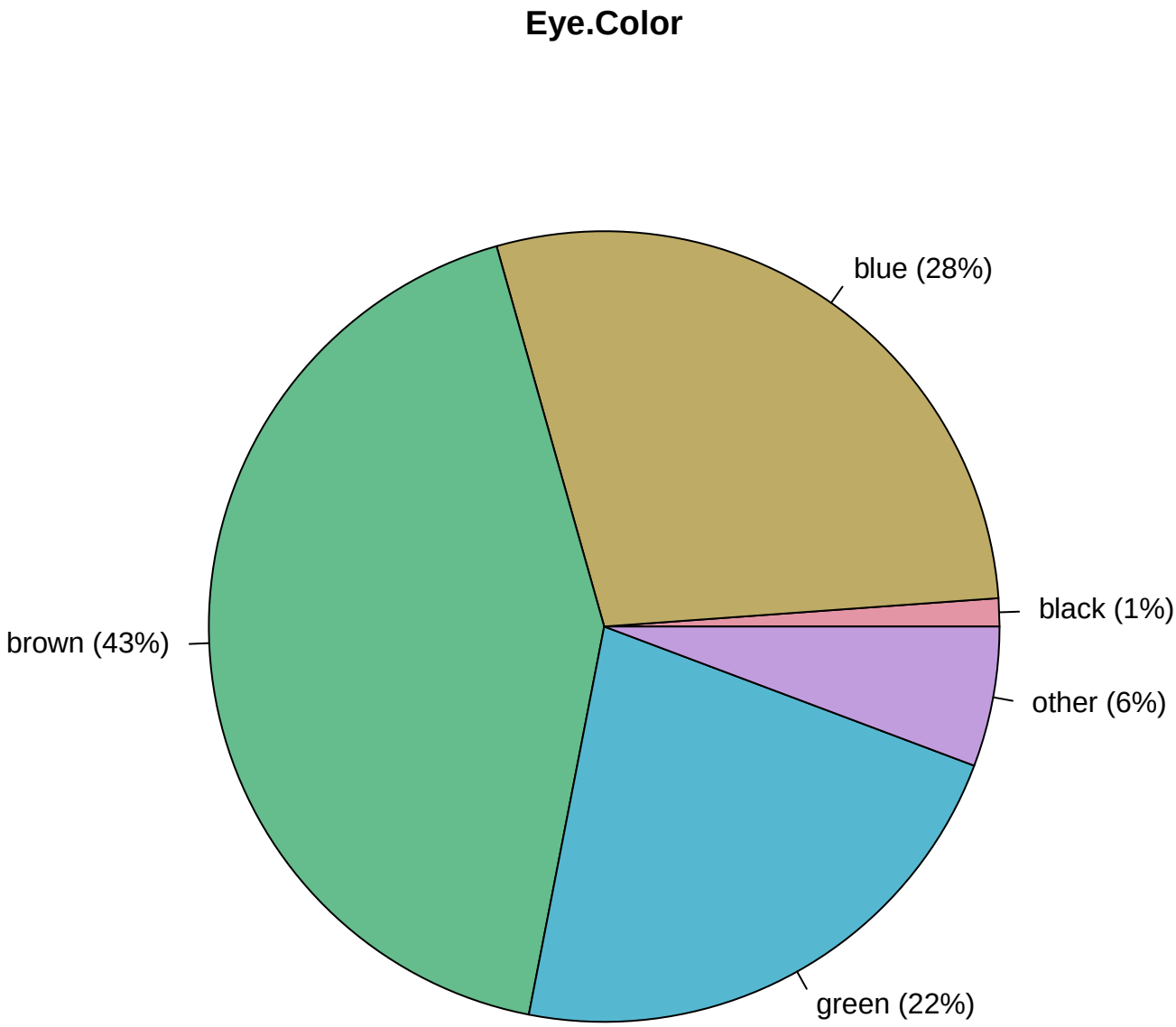





```
> library(colorspace, pos=17)
```

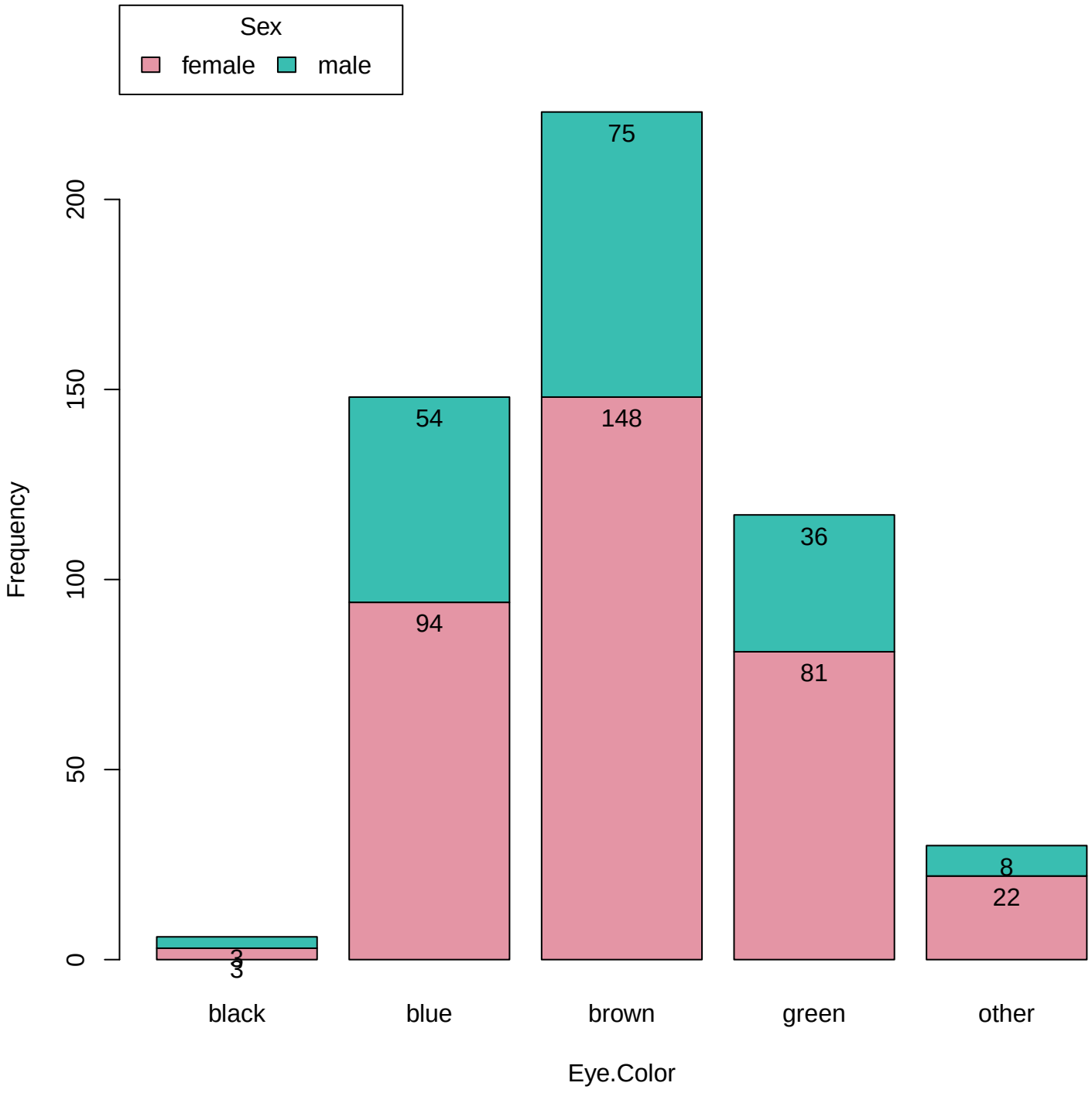
Pie Chart: Eye.Color

```
> with(my.data, piechart(Eye.Color, xlab="", ylab="", main="Eye.Color",
+   col=rainbow_hcl(5), scale="percent"))
```



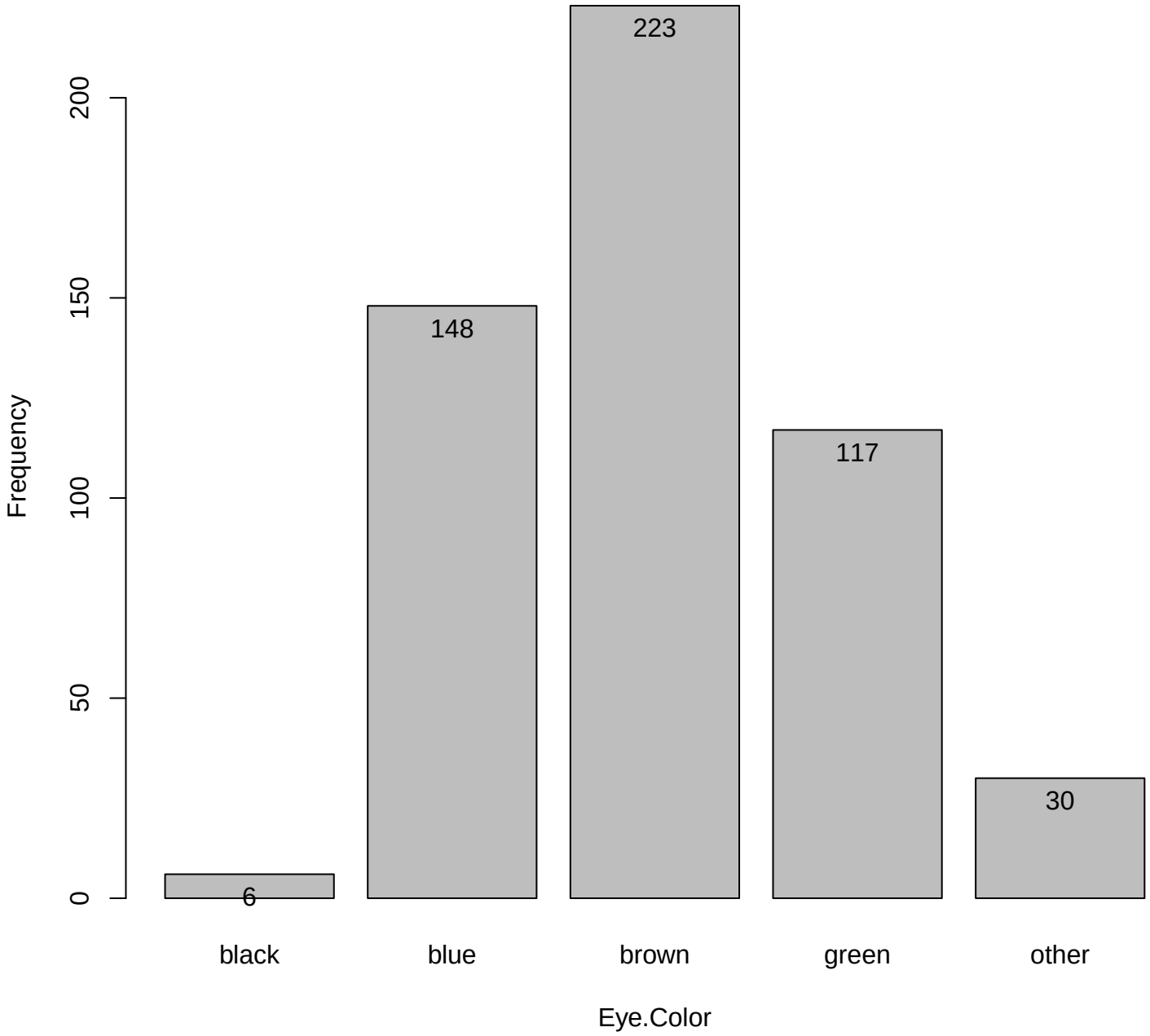
Bar Plot: Eye.Color

```
> with(my.data, Barplot(Eye.Color, by=Sex, style="divided",
+   legend.pos="above", xlab="Eye.Color", ylab="Frequency", label.bars=TRUE))
```



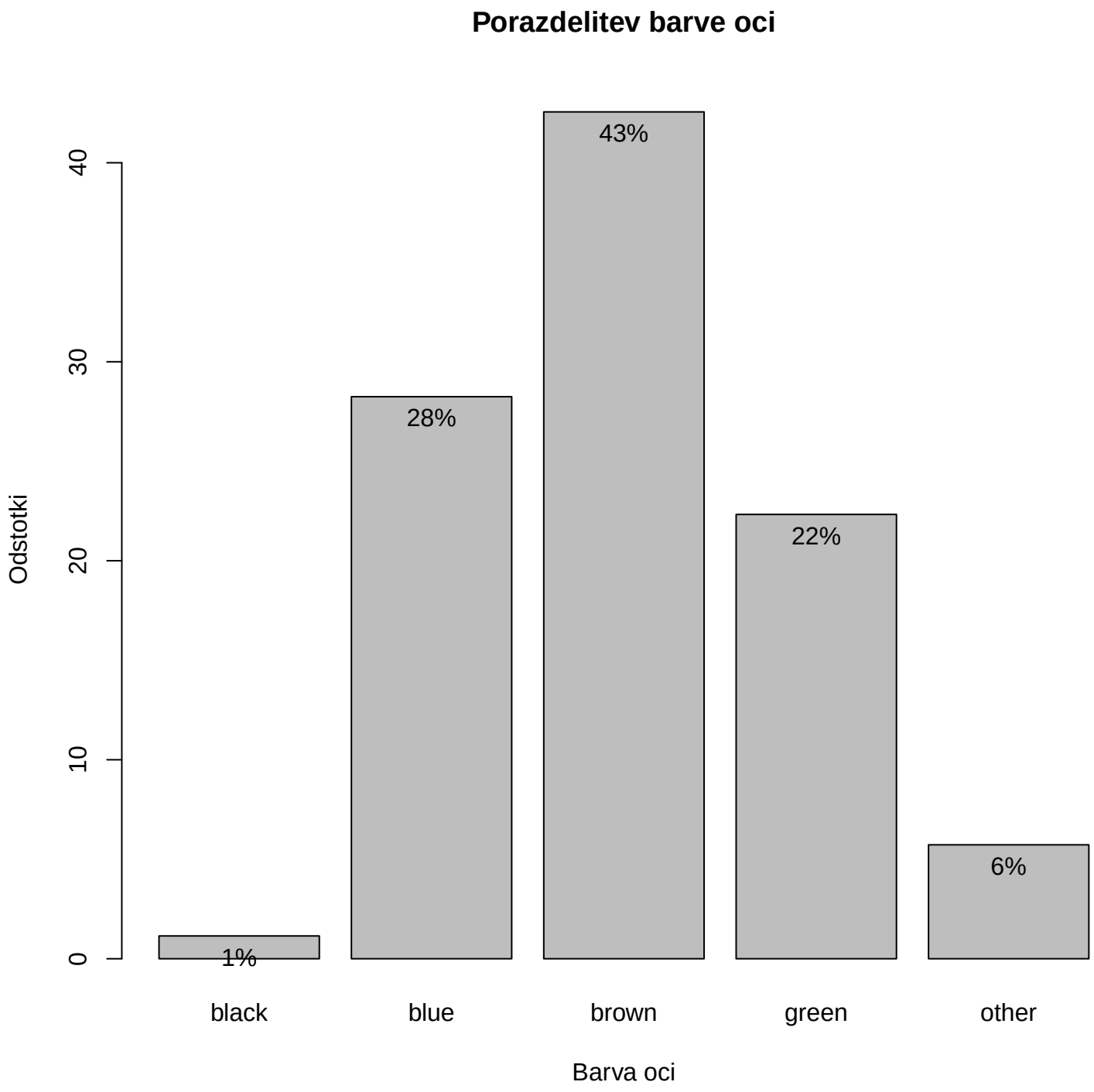
Bar Plot: Eye.Color

```
> with(my.data, Barplot(Eye.Color, xlab="Eye.Color", ylab="Frequency",
+   label.bars=TRUE))
```



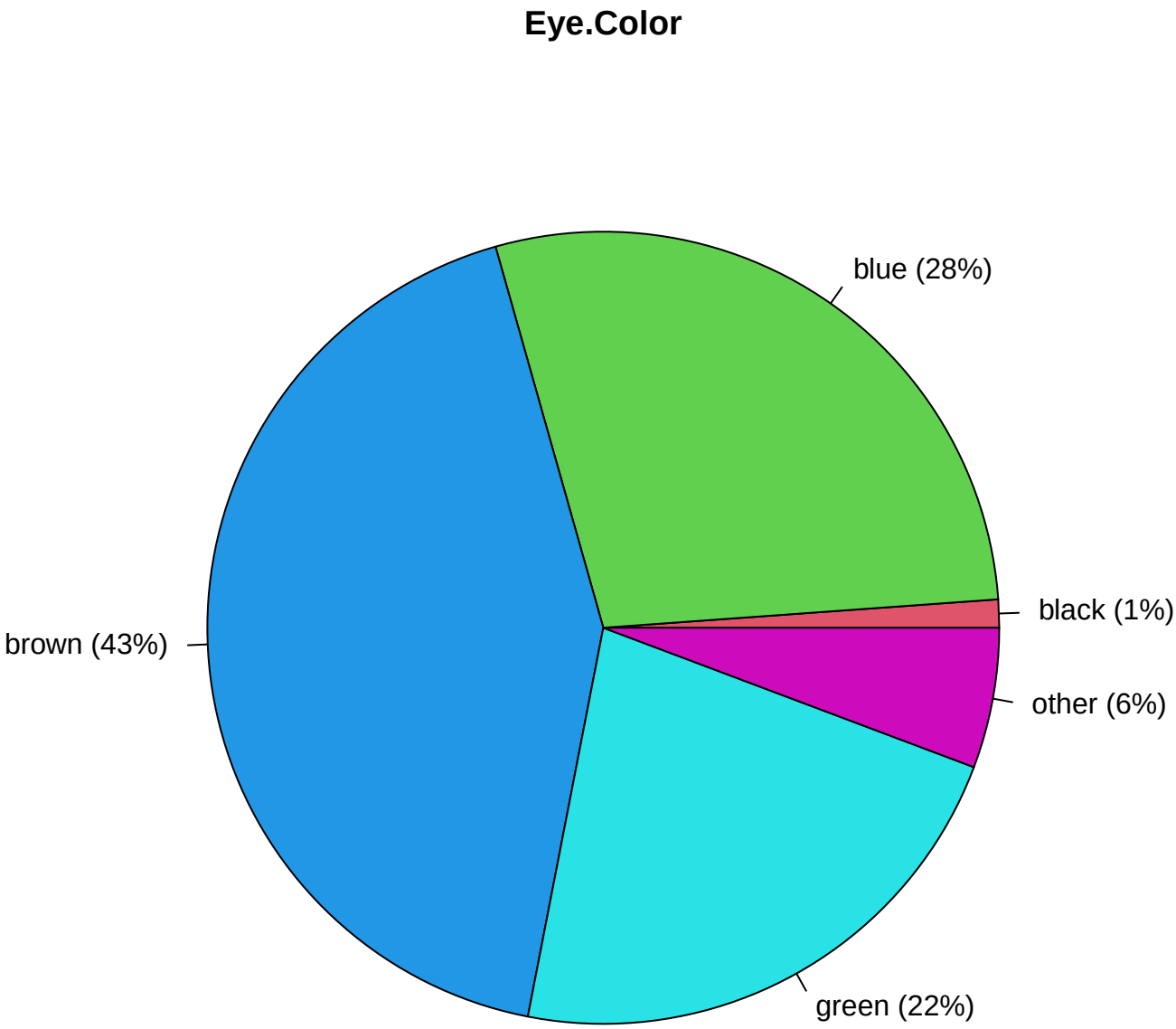
Bar Plot: Eye.Color

```
> with(my.data, Barplot(Eye.Color, xlab="Barva oci", ylab="Odstotki",
+   main="Porazdelitev barve oci", scale="percent", label.bars=TRUE))
```

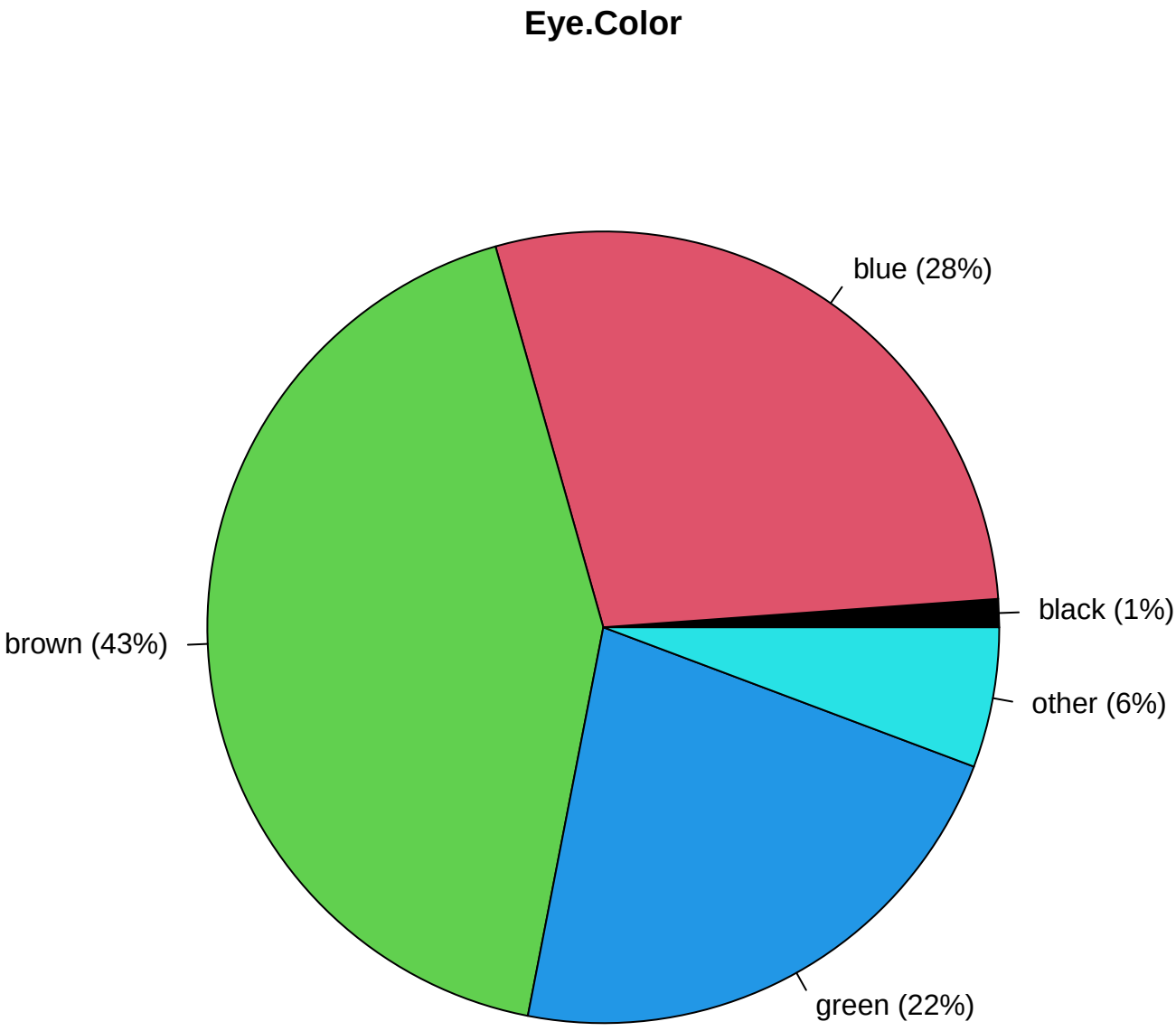


Pie Chart: Eye.Color

```
> with(my.data, piechart(Eye.Color, xlab="", ylab="", main="Eye.Color",
+   col=palette()[2:6], scale="percent"))
```

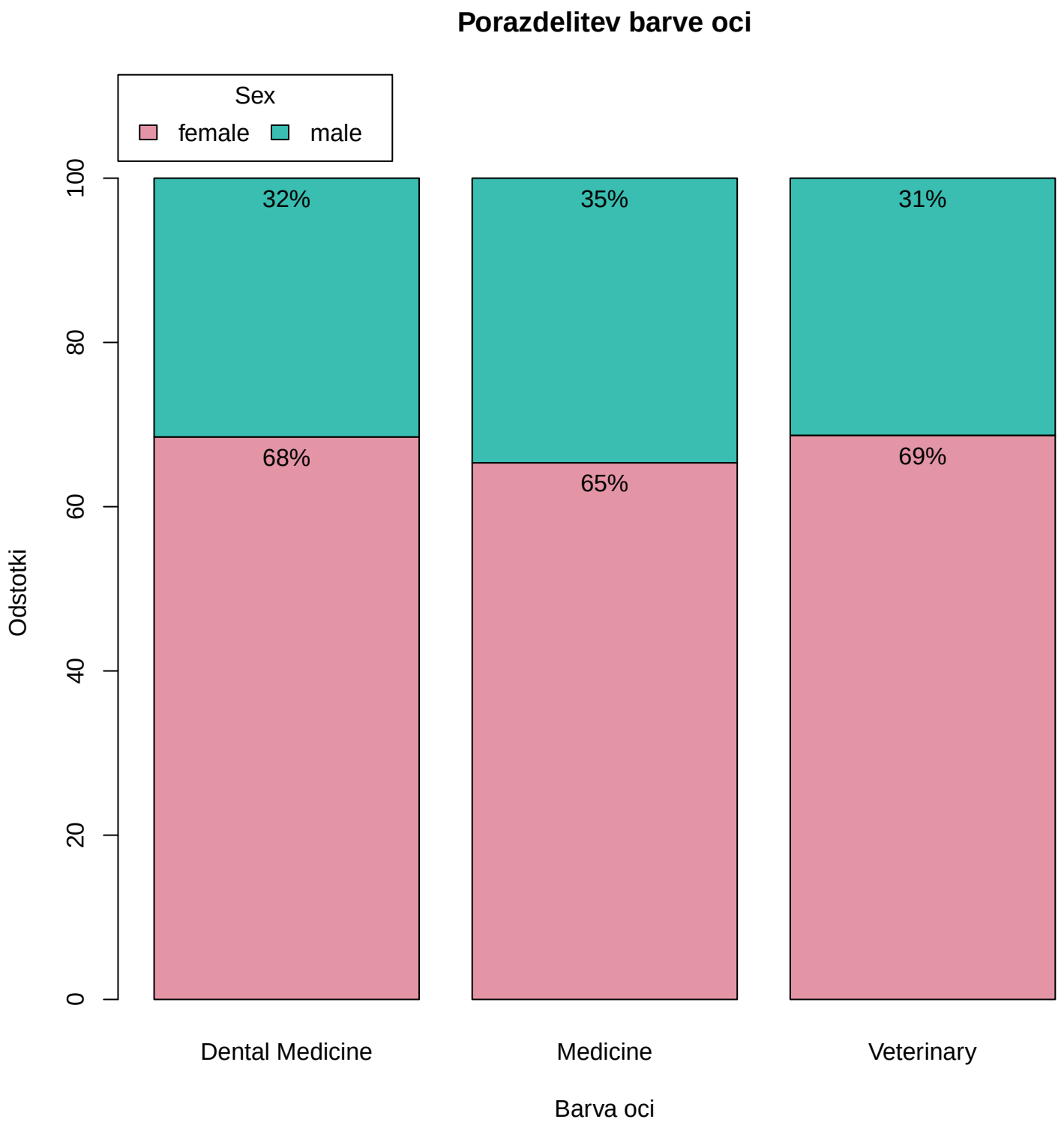


```
> with(my.data, piechart(Eye.Color, xlab="", ylab="", main="Eye.Color",
+ col=palette()[1:5], scale="percent"))
```



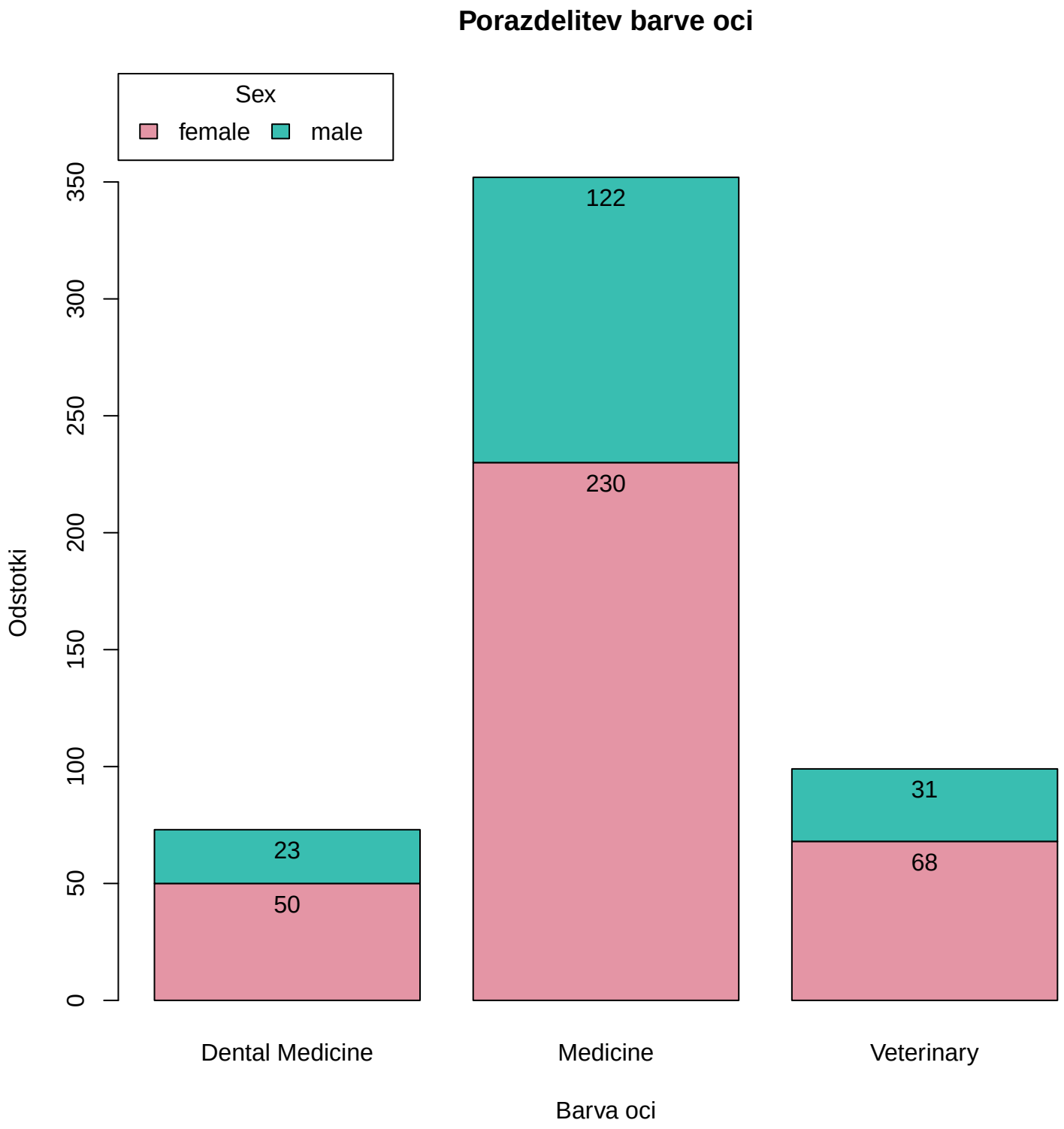
Bar Plot: Faculty

```
> with(my.data, Barplot(Faculty, by=Sex, style="divided", legend.pos="above",
+   xlab="Barva oci", ylab="Odstotki", main="Porazdelitev barve oci",
+   scale="percent", label.bars=TRUE))
```



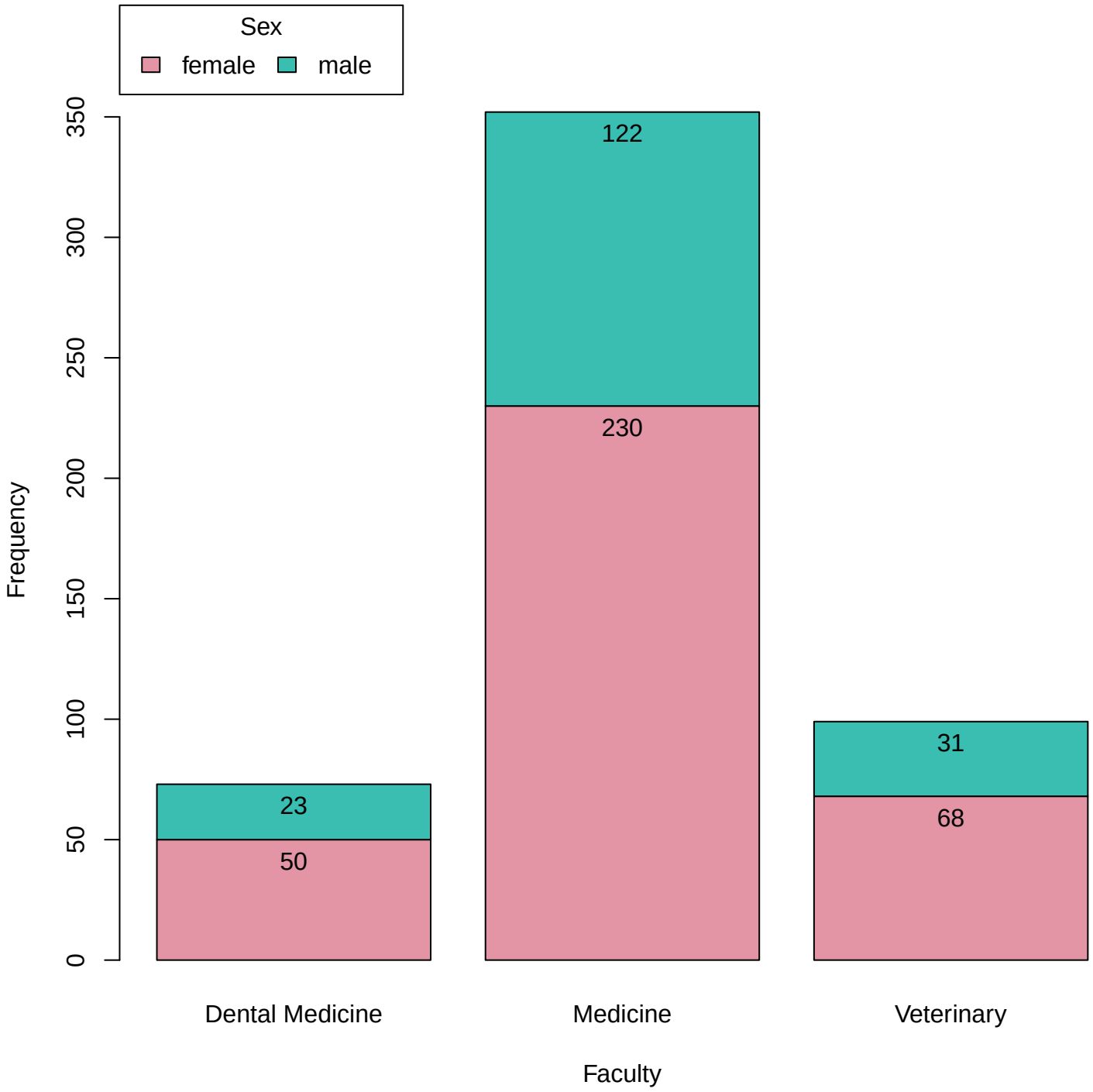
Bar Plot: Faculty

```
> with(my.data, Barplot(Faculty, by=Sex, style="divided", legend.pos="above",
+   xlab="Barva oci", ylab="Odstotki", main="Porazdelitev barve oci",
+   label.bars=TRUE))
```



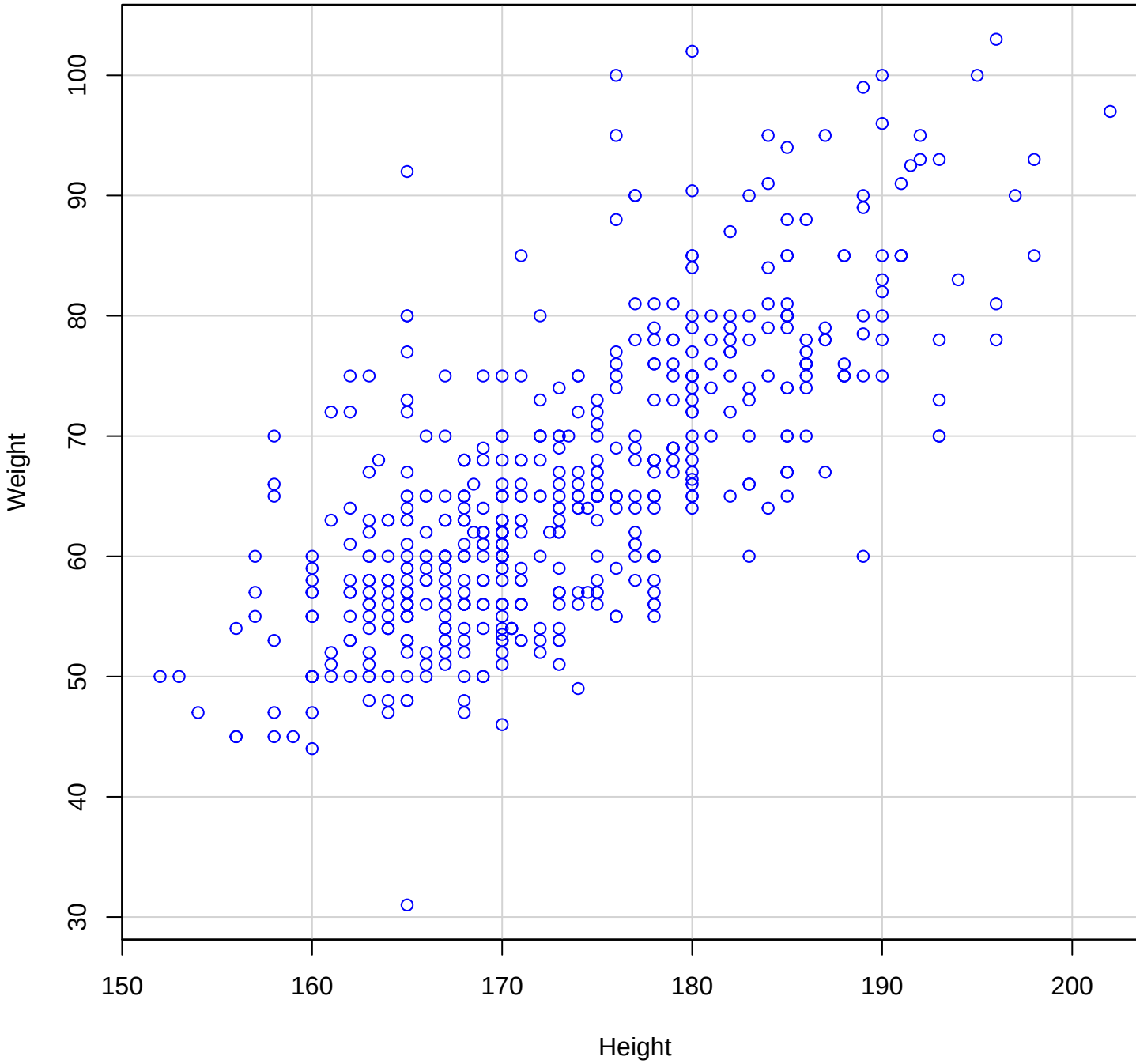
Bar Plot: Faculty

```
> with(my.data, Barplot(Faculty, by=Sex, style="divided", legend.pos="above",
+   xlab="Faculty", ylab="Frequency", label.bars=TRUE))
```



Scatterplot: Weight~Height

```
> scatterplot(Weight~Height, regLine=FALSE, smooth=FALSE, boxplots=FALSE,
+   data=my.data)
```



```
> library(abind, pos=18)
```

```
> library(e1071, pos=19)
```

Numerical Summaries: my.data

```
> numSummary(my.data[,"Friends.on.Facebook", drop=FALSE], statistics=c("mean",
+     "sd", "IQR", "quantiles"), quantiles=c(0,.25,.5,.75,1))
```

```
     mean       sd IQR 0% 25% 50% 75% 100%   n  NA
 325.9514 370.7482 279  0 152 300 431 5000 247 277
```

```
> numSummary(my.data[,"Friends.on.Facebook", drop=FALSE], statistics=c("mean",
+ "sd", "IQR", "quantiles"), quantiles=c(0,.25,.5,.75,1,0.9,0.32 ))
```

```
     mean       sd IQR 0% 25% 50% 75% 100% 90%    32%   n  NA
 325.9514 370.7482 279  0 152 300 431 5000 602 207.44 247 277
```

Summarize Data Set: my.data

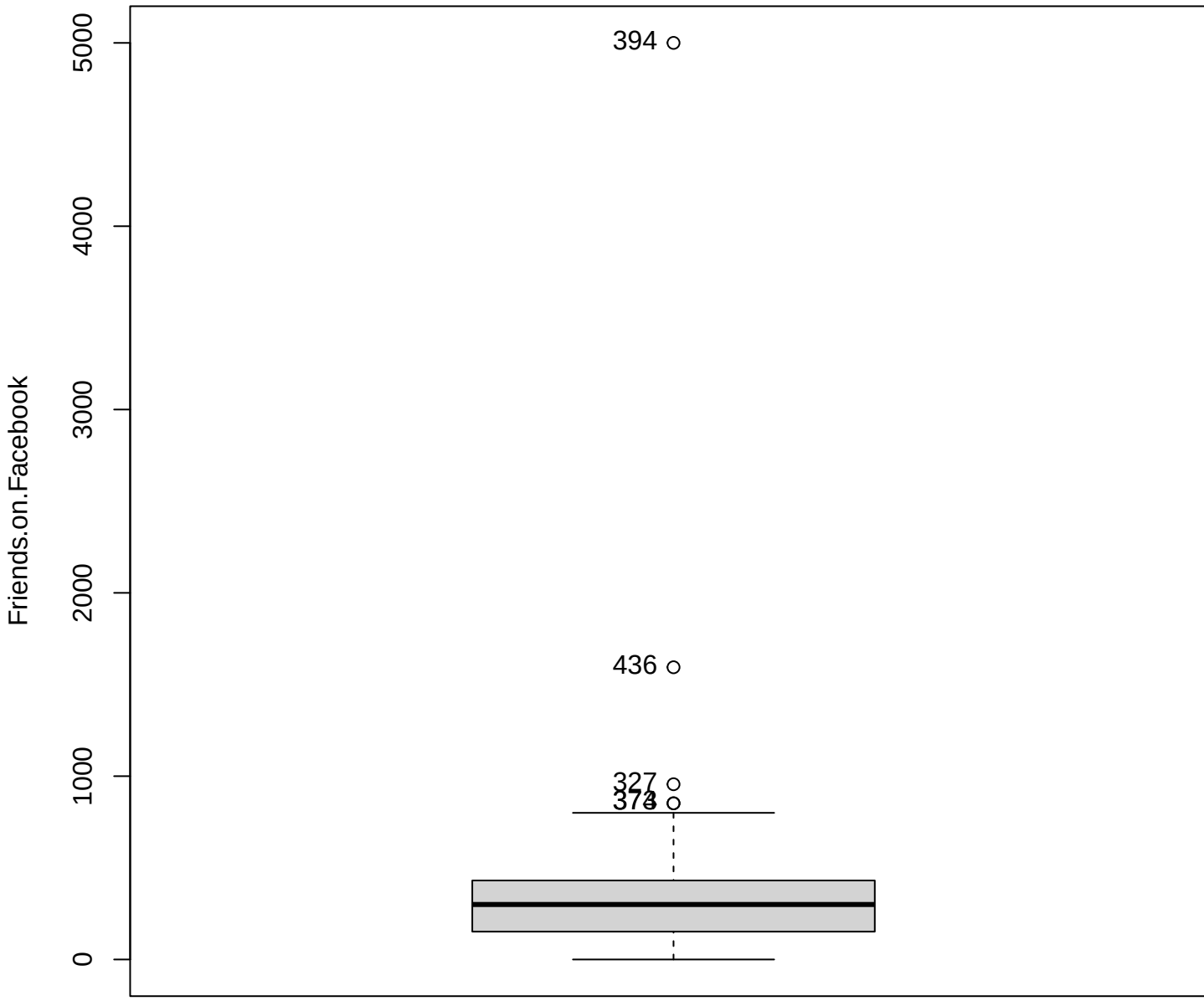
```
> summary(my.data)
```

```
              Timestamp        Age             Sex          Height
 10.10.2010 10:38:39:  1   Min.   :18.00   female:348   Min.   :152.0
 10.10.2010 14:13:31:  1   1st Qu.:20.00   male  :176   1st Qu.:167.0
 10.10.2010 17:30:55:  1   Median :20.00                Median :171.0
 10.10.2010 17:54:13:  1   Mean   :20.06                Mean   :173.2
 10.10.2010 21:32:16:  1   3rd Qu.:20.00                3rd Qu.:179.0
 10.11.2010 18:58:17:  1   Max.   :27.00                Max.   :202.0
 (Other)            :518
    Weight         Shoe.size     Eye.Color   Smoking
 Min.   : 31.00   Min.   :35.00   black:  6   no :483
 1st Qu.: 57.00   1st Qu.:38.00   blue :148   yes: 41
 Median : 64.00   Median :40.00   brown:223
 Mean   : 65.64   Mean   :40.42   green:117
 3rd Qu.: 74.00   3rd Qu.:42.00   other: 30
 Max.   :103.00   Max.   :49.00
 NA's   :1
 Smoking.How.many.per.day Videogames TV..hours.per.week.
 Min.   : 0.0000          no :370    Min.   : 0.000
 1st Qu.: 0.0000          yes:154    1st Qu.: 2.000
 Median : 0.0000                     Median : 4.000
 Mean   : 0.5919                     Mean   : 5.256
 3rd Qu.: 0.0000                     3rd Qu.: 7.000
 Max.   :25.0000                     Max.   :45.000

 Internet..hours.per.week. Books..how.many.per.year. Sport..hours.per.week.
 Min.   : 1.00             Min.   :  0.00            Min.   : 0.000
 1st Qu.: 7.00             1st Qu.:  5.00            1st Qu.: 3.000
 Median :12.00             Median :  8.00            Median : 4.000
 Mean   :15.35             Mean   : 11.59            Mean   : 5.417
 3rd Qu.:20.00             3rd Qu.: 15.00            3rd Qu.: 7.000
 Max.   :80.00             Max.   :150.00            Max.   :30.000
                           NA's   :2
```

```
      Pet                  Faculty    Friends.on.Facebook
no      :152   Dental Medicine: 73   Min.   :   0
Dog     :105   Medicine       :352   1st Qu.: 152
Cat     : 71   Veterinary     : 99   Median : 300
Cat, Dog: 41                         Mean   : 326
Other   : 23                         3rd Qu.: 431
Rodent  : 20                         Max.   :5000
(Other) :112                         NA's   :277
Sleep..hours.per.night. PetBird   PetCat    PetDog    PetFish   Petno
Min.   : 4.000          No :495   No :350   No :311   No :473   No :371
1st Qu.: 7.000          Yes: 29   Yes:174   Yes:213   Yes: 51   Yes:153
Median : 7.000
Mean   : 7.304
3rd Qu.: 8.000
Max.   :12.000
NA's   :277
PetOther  PetRodent
No :449   No :478
Yes: 75   Yes: 46
```

Boxplot: ~ Friends.on.Facebook

```
> Boxplot( ~ Friends.on.Facebook, data=my.data, id=list(method="y"))
```




```
[1] "327" "373" "374" "394" "436"
```