childsmath $\int_M d\omega = \int_{\partial M} \omega$

R Tutorials

Creating Histograms on R

We will use the `weight` and `gender` variables in the `databank` dataset to produce a separate histogram of weights for males and females.

1. Open the `databank.RData` workspace that you created in the introductory lab using `File->Load Workspace` (on a **Mac:** `workspace > load workspace file`)

2. We first extract the `weight` and `gender` variables:

```
weight<-databank$weight
gender<-databank$gender
```

3. Then we create two new variables containing the weights of females only, and males only, respectively:

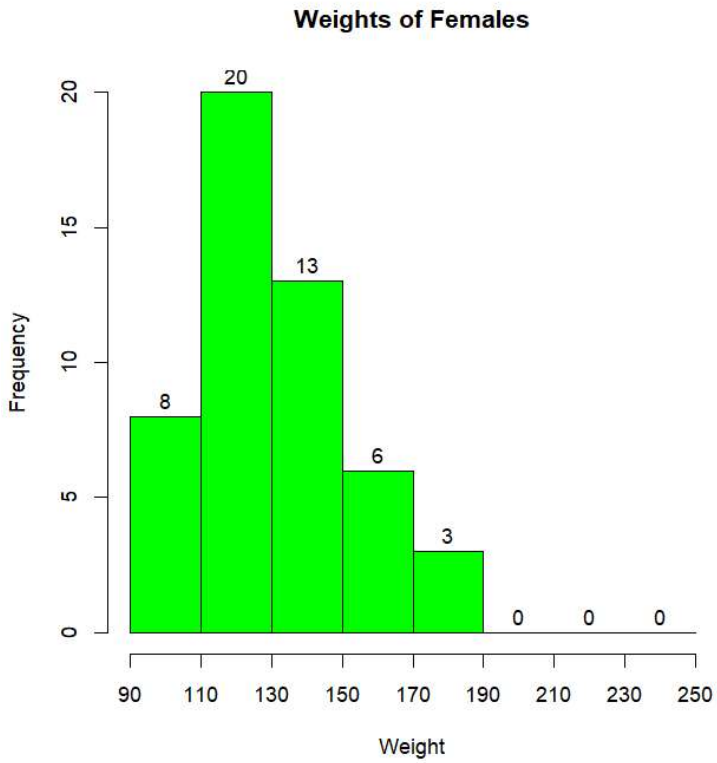
```
female_weight<-weight[gender=="F"]
male_weight<-weight[gender=="M"]
```

4. Now we use the `hist` command to display two separate labeled histograms of weight for females and males using the intervals 90-110, 110-130, 130-150, 150-170, 170-190, 190-210, 210-230, and 230-250:

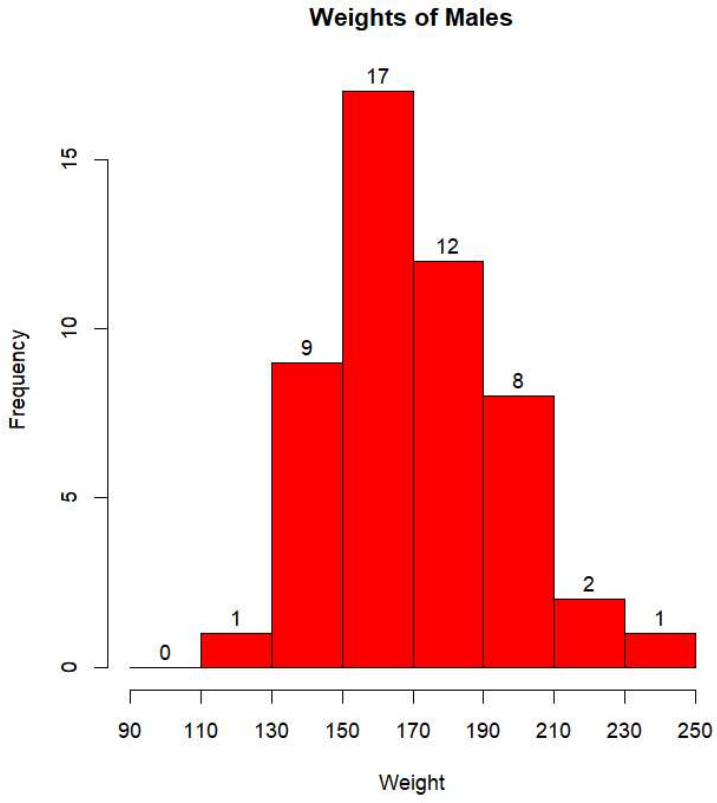
```
#We first use the c() function to combine the cutpoints into a vector
cutpoints<-c(90,110,130,150,170,190,210,230,250)

#we use the xaxt="n" option to supress the tickmarks on the x-axis
#and the right=FALSE option so that right endpoints are not included
#in the intervals
hist(female_weight,breaks=cutpoints,labels=TRUE,right=FALSE,col="green",
   xaxt="n",main="Weights of Females",xlab="Weight")

#then we specify that the tickmarks on the x-axis be at the cutpoints
axis(side=1,at=cutpoints)
```




```
hist(male_weight,breaks=cutpoints,labels=TRUE,right=FALSE,col="red",
    xaxt="n",main="Weights of Males",xlab="Weight")
axis(side=1,at=cutpoints)
```



From the graphs we can see, for example, that 12 males and 3 females in the data set weighed between 170 and 190 pounds (not including 190 pounds).