

Reproducible Research: Peer Assessment 1

Loading and preprocessing the data

```
activityData<-read.csv("activity.csv", header = T)
```

Once the data is read, there are a number of questions we must ask using it.

```
sapply(activityData, class)
```

```
##      steps      date interval  
## "integer" "factor" "integer"
```

One thing we are gonna need for sure is to manipulate the interval variable, so we can work with the dates on a proper way. First we convert the variable to character, then we get attach some zeros to the ones that are less than 4 characters long. This way, we make sure we can later parse them in the correct format (hours:minutes).

```
activityData$interval<-as.character(activityData$interval)  
  
for (i in 1:length(activityData$interval)) {  
  while (nchar(activityData$interval[i])<4) {  
    activityData$interval[i]<-paste("0",  
                                     activityData$interval[i],  
                                     sep = "");  
    if(nchar(activityData$interval[i])==4) break}  
}  
  
sum(nchar(activityData$interval)!=4)
```

```
## [1] 0
```

Now that we have reasonably clean data, we can start investigating.

What is mean total number of steps taken per day?

```
library(dplyr)
```

```
##  
## Attaching package: 'dplyr'  
##  
## The following objects are masked from 'package:stats':  
##  
##   filter, lag  
##  
## The following objects are masked from 'package:base':  
##  
##   intersect, setdiff, setequal, union
```

```

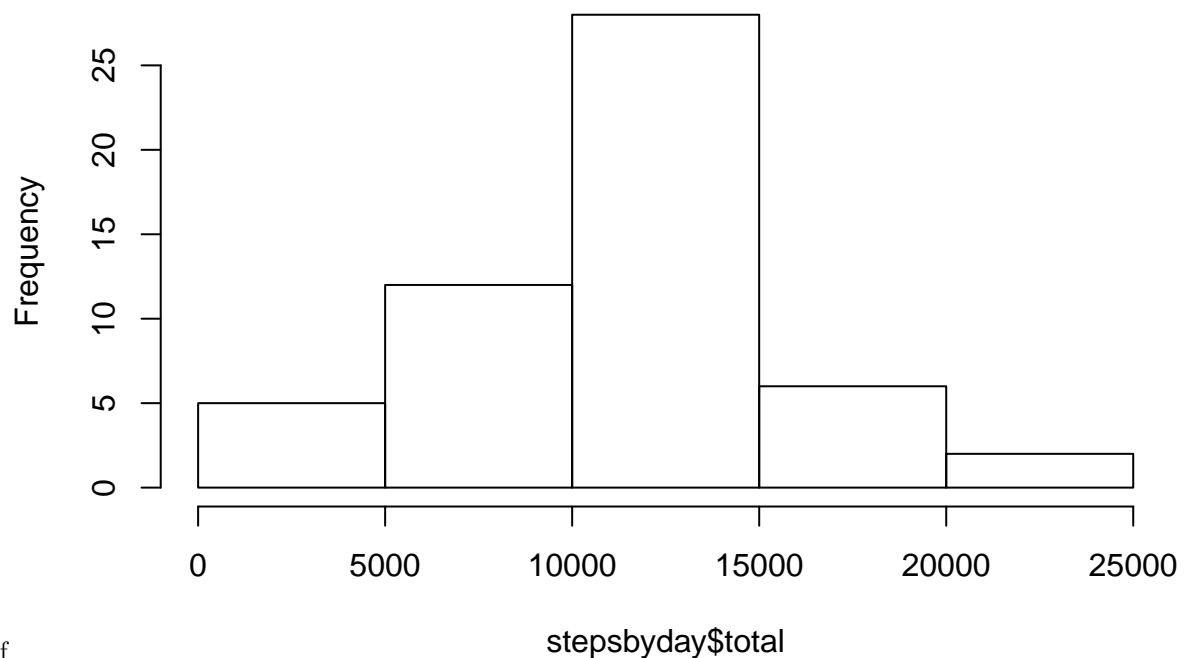
stepsbyday<-activityData %>%
  group_by(date) %>%
  summarise (total = sum(steps),
             mean = mean(steps, na.rm = T),
             median = (median(steps, na.rm = T)))

totalmean<-mean(stepsbyday$total, na.rm = T)
totalmedian<-median(stepsbyday$total, na.rm = T)

hist(stepsbyday$total)

```

Histogram of stepsbyday\$total



date.pdf

Mean steps taken by day is {r}totalmean.

Median steps taken by day is totalmedian.

What is the average daily activity pattern?

Imputing missing values

Are there differences in activity patterns between weekdays and weekends?