

project

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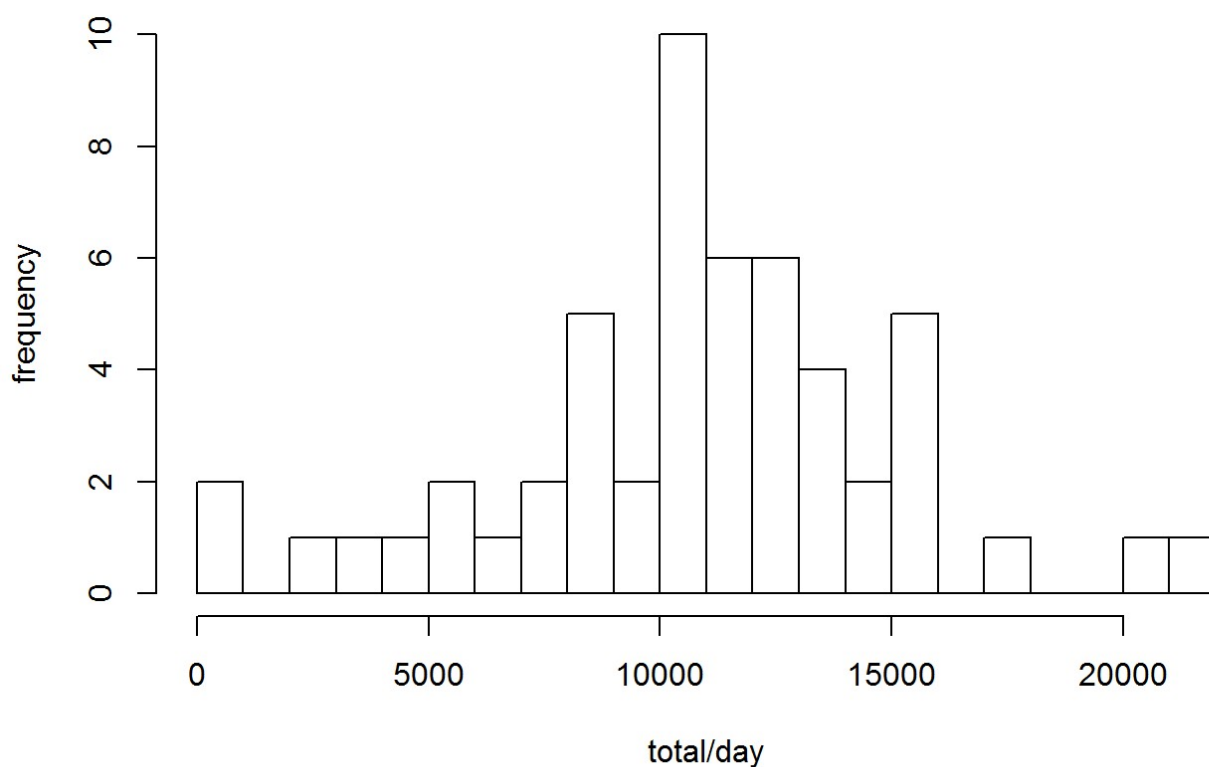
Load data

```
unzip("C://Users//lenovo//Desktop//repdata_data_activity.zip", exdir="C://Users//lenovo//Desktop")
data <- read.csv("C://Users//lenovo//Desktop//activity.csv")
head(data)
```

##	steps	date	interval
## 1	NA	2012-10-01	0
## 2	NA	2012-10-01	5
## 3	NA	2012-10-01	10
## 4	NA	2012-10-01	15
## 5	NA	2012-10-01	20
## 6	NA	2012-10-01	25

The mean and median of the total number of steps taken per day

the total number of steps taken each day

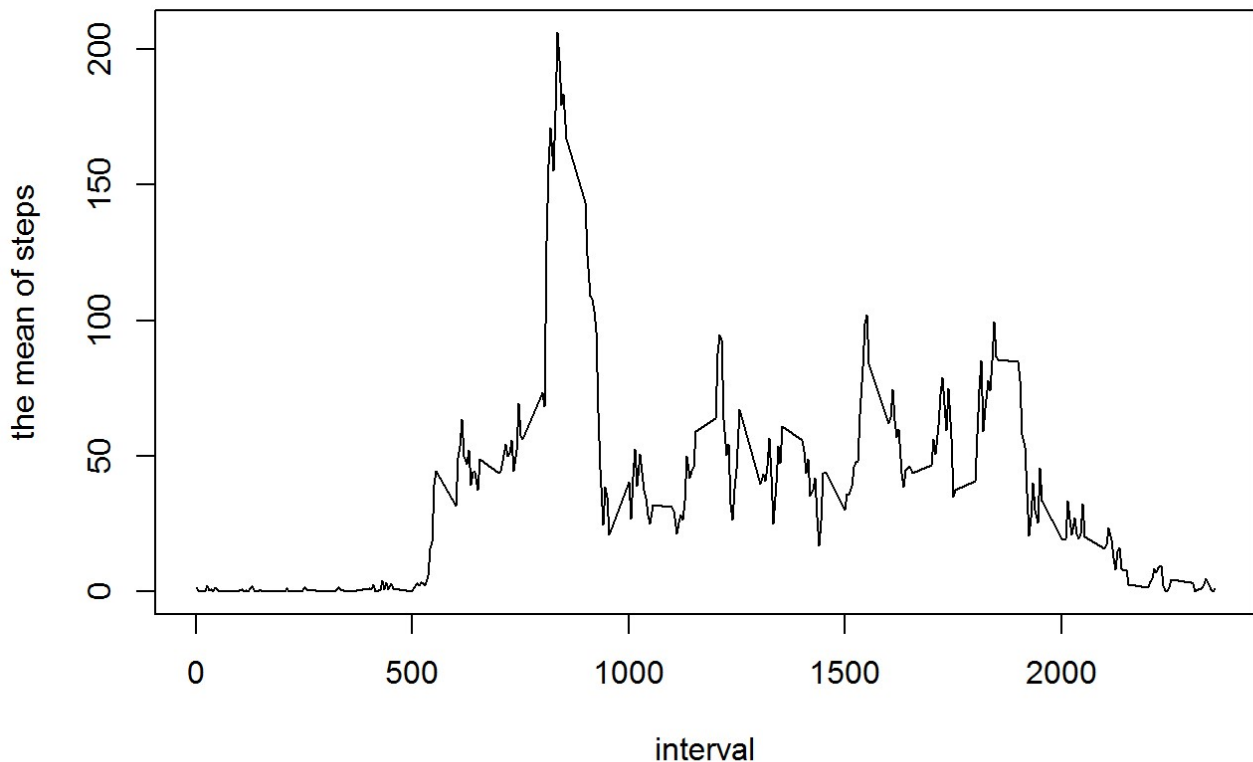


```
## [1] 10766.19
```

```
## [1] 10765
```

So the mean of the total number of steps taken per day is 10766.19; the median is 10765.

Average daily activity pattern



```
##      interval  steps
## 104         835 206.1698
```

So on average across all the days, the 835th interval contains the maximum number of steps.

Imputing missing values

the total number of rows with NAs

```
## [1] 15264      3
```

So the total number of rows with NAs is 15264.

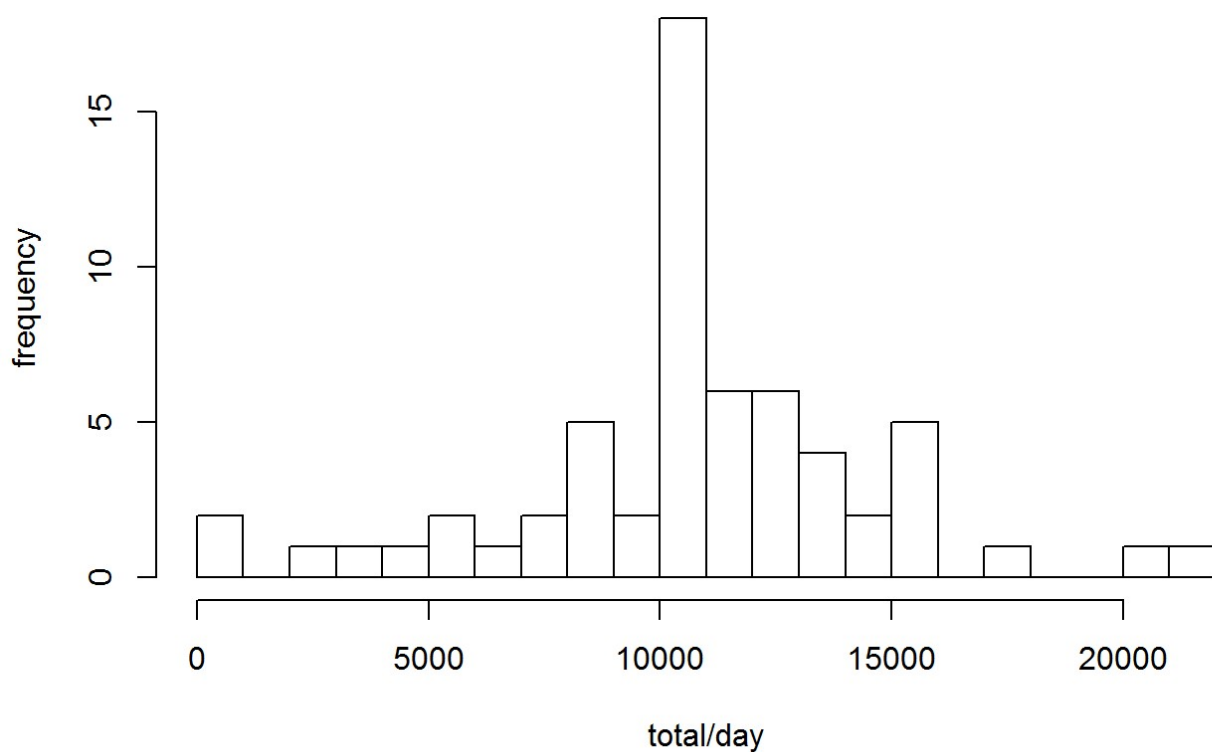
filling in all of the missing values

There I will fill the NAs by using the mean for that 5-minute interval.

```
##      date interval newsteps
## 1 2012-10-01      0 1.7169811
## 2 2012-10-01      5 0.3396226
## 3 2012-10-01     10 0.1320755
## 4 2012-10-01     15 0.1509434
## 5 2012-10-01     20 0.0754717
## 6 2012-10-01     25 2.0943396
```

The mean and median of the total number of steps taken per day for newdata

the total number of steps taken each day



```
## [1] 10766.19
```

```
## [1] 10766.19
```

So the mean of the total number of steps taken per day is 10766.19; the median is 10766.19. In conclusion, the mean does not change, but the median gets larger.

Explore difference between weekday and weekend

```
## The following object is masked _by_ '.GlobalEnv':
##
##      newsteps
```

```
## The following objects are masked from data:  
##  
##   date, interval
```

```
##      date interval newsteps      a indicator  
## 1 2012-10-01      0 1.7169811 星期一  weekday  
## 2 2012-10-01      5 0.3396226 星期一  weekday  
## 3 2012-10-01     10 0.1320755 星期一  weekday  
## 4 2012-10-01     15 0.1509434 星期一  weekday  
## 5 2012-10-01     20 0.0754717 星期一  weekday  
## 6 2012-10-01     25 2.0943396 星期一  weekday
```

A panel plot

```
## The following objects are masked _by_ .GlobalEnv:  
##  
##   a, newsteps
```

```
## The following objects are masked from newdata (pos = 3):  
##  
##   date, interval, newsteps
```

```
## The following objects are masked from data:  
##  
##   date, interval
```

