Reproducible Research: Peer Assessment 1

Loading and preprocessing the data

Read in the data.

```
if(!file.exists('activity.csv')){
    unzip('activity.zip')
}
activity <- read.csv('activity.csv')
```

Create a date.time column that combines the date and interval columns.

```
time <- formatC(activity$interval / 100, 2, format='f')
activity$date.time <- as.POSIXct(paste(activity$date, time),
                                 format='%Y-%m-%d %H.%M',
                                 tz='GMT')
```

For analyzing the means at the different times of day, it will also be convenient to have a time column. To do this, I convert all of the dates to be for today. since we only care about the time for that column, it will help us with the analysis.

```
activity$time <- format(activity$date.time, format='%H:%M:%S')
activity$time <- as.POSIXct(activity$time, format='%H:%M:%S')
```

What is mean total number of steps taken per day?

What is the average daily activity pattern?

Imputing missing values

Are there differences in activity patterns between weekdays and weekends?