Restaurant Mapping

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```r
# load the data of restaurant insprction
RES <- read.csv("mayorsfoodcourt.csv",na.strings=c("","NA"))
```

```r
#we need all data from boston
RES <- subset(RES, CITY =="Boston")
# to reduce the point density, only use the the restaurant with violation level = ***

RES <- subset(RES, RES$ViolLevel == "***")

## further reduction: violation status = fail
RES <- subset(RES, RES$ViolStatus == "Fail")


####last reduction, Location != NA
res <- subset(RES, !(is.na(RES$Location)))

res1 <- subset(res, !duplicated(subset(res, select = LICENSENO)))
res1$lon <- as.numeric(substring(res1$Location, 16, 28))
res1$lat <- as.numeric(substring(res1$Location, 2, 13))
```

```r
# library(ggplot2)
# require(ggmap)
#
# map.center <- geocode("Boston,MA")
#                       #, output = c("latlon", "latlona", "more", "all"), source = c("google", "dsk"),
#
# #geocodeQueryCheck(userType = "free")
#
# #map.center <- as.data.frame(as.list(c(lon = "42.3601",lat = "71.0589")))
#
# Bos_map <- qmap(c(lon = map.center$lon, lat = map.center$lat), source:"google",center = map.center, z
#
# Bos_map + geom_point(data = res1, size = 4, alpha = 0.2) + aes(x="lon", y="lat") +
#   ggtitle("Restaurant failed the violation check with level *** in Boston")
```

```r
# library(leaflet)
#
#
# res1[, c("lat", "lon")]%>%
#   leaflet()%>%
#   addTiles()%>%
#   addMarkers()%>%
#   setView(-71.13062, 42.35308, zoom = 14)
```

```r
library(ggmap)
```

```
## Loading required package: ggplot2
```

```
## Google Maps API Terms of Service: http://developers.google.com/maps/terms.
```

```
## Please cite ggmap if you use it: see citation("ggmap") for details.
library(ggplot2)

qmplot(lon,lat, data = res1, maptype = "toner-lite", zoom = 12, color = "Viollevel ***",
       size = I(2))
```

Source : http://tile.stamen.com/toner-lite/12/1238/1514.png

Source : http://tile.stamen.com/toner-lite/12/1239/1514.png

Source : http://tile.stamen.com/toner-lite/12/1238/1515.png

Source : http://tile.stamen.com/toner-lite/12/1239/1515.png

Source : http://tile.stamen.com/toner-lite/12/1238/1516.png

Source : http://tile.stamen.com/toner-lite/12/1239/1516.png