

City of London Crime Report with Leaflet

May 2, 2017

This is a leaflet exercise/ an assignment for Data Science Specialization /Coursera.com/. I chose a data set, which represents the Crime Report of the City of London for one month, specifically 02/2017. The data set can be downloaded from here: <https://data.police.uk/data/> (<https://data.police.uk/data/>)

City of London Crime Report for 02/2017



```
# look at the data
table(london_crime2$Crime.type)
```

| | |
|-----------------------|------------------------------|
| Anti-social behaviour | Bicycle theft |
| 56 | 17 |
| Burglary | Criminal damage and arson |
| 19 | 26 |
| Drugs | Other crime |
| 24 | 8 |
| Other theft | Possession of weapons |
| 122 | 1 |
| Public order | Robbery |
| 20 | 2 |
| Shoplifting | Theft from the person |
| 74 | 44 |
| Vehicle crime | Violence and sexual offences |
| 11 | 59 |

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# required packages
library(dplyr)
library(leaflet)
# load the data
london_crime <- read.csv("./2017-02-city-of-london-street.csv")
# take only the required columns: Latitude, Longitude, Crime.type
# make new column and count the different crimes
london_crime2 <- london_crime %>%
  select(Crime.type, Latitude, Longitude) %>%
  mutate(n = as.numeric(table(london_crime$Crime.type)[london_crime$Crime.type])) %>%
  na.omit()
# we are going to need this one later
outline <- london_crime2[chull(london_crime2$Latitude, london_crime2$Longitude), ]

# make the map and add the markers for the different crimetypes
london_crime2 %>%
  leaflet() %>%
  addTiles() %>%
  addMarkers(
    lng = london_crime2[london_crime2$Crime.type == "Drugs",]$Longitude,
    lat = london_crime2[london_crime2$Crime.type == "Drugs",]$Latitude,
    popup = london_crime2[london_crime2$Crime.type == "Drugs",]$Crime.type,
    # clusterOptions = markerClusterOptions(),
    group = "Drugs"
  ) %>%
  addMarkers(
    lng = london_crime2[london_crime2$Crime.type == "Anti-social behaviour",]$Longitude,
    lat = london_crime2[london_crime2$Crime.type == "Anti-social behaviour",]$Latitude,
    popup = london_crime2[london_crime2$Crime.type == "Anti-social behaviour",]$Crime.type,
    # clusterOptions = markerClusterOptions(),
    group = "Anti-social behaviour"
  ) %>%
  addMarkers(
    lng = london_crime2[london_crime2$Crime.type == "Bicycle theft",]$Longitude,
    lat = london_crime2[london_crime2$Crime.type == "Bicycle theft",]$Latitude,
    popup = london_crime2[london_crime2$Crime.type == "Bicycle theft",]$Crime.type,
    # clusterOptions = markerClusterOptions(),
    group = "Bicycle theft"
  ) %>%
  addMarkers(
    lng = london_crime2[london_crime2$Crime.type == "Burglary",]$Longitude,
    lat = london_crime2[london_crime2$Crime.type == "Burglary",]$Latitude,
    popup = london_crime2[london_crime2$Crime.type == "Burglary",]$Crime.type,
    # clusterOptions = markerClusterOptions(),
    group = "Burglary"
  ) %>%
  addMarkers(
    lng = london_crime2[london_crime2$Crime.type == "Criminal damage and arson",]$Longitude,
    lat = london_crime2[london_crime2$Crime.type == "Criminal damage and arson",]$Latitude,
    popup = london_crime2[london_crime2$Crime.type == "Criminal damage and arson",]$Crime.type,
    # clusterOptions = markerClusterOptions(),
    group = "Criminal damage and arson"
  ) %>%
  addMarkers(
    lng = london_crime2[london_crime2$Crime.type == "Possession of weapons",]$Longitude,
    lat = london_crime2[london_crime2$Crime.type == "Possession of weapons",]$Latitude,
    popup = london_crime2[london_crime2$Crime.type == "Possession of weapons",]$Crime.type,
    # clusterOptions = markerClusterOptions(),
    group = "Possession of weapons"
  ) %>%
  addMarkers(
    lng = london_crime2[london_crime2$Crime.type == "Public order",]$Longitude,
    lat = london_crime2[london_crime2$Crime.type == "Public order",]$Latitude,
    popup = london_crime2[london_crime2$Crime.type == "Public order",]$Crime.type,
    # clusterOptions = markerClusterOptions(),
    group = "Public order"
  ) %>%
  addMarkers(
    lng = london_crime2[london_crime2$Crime.type == "Shoplifting",]$Longitude,
    lat = london_crime2[london_crime2$Crime.type == "Shoplifting",]$Latitude,
    popup = london_crime2[london_crime2$Crime.type == "Shoplifting",]$Crime.type,
    # clusterOptions = markerClusterOptions(),
    group = "Shoplifting"
  )

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) %>%
addMarkers(
  lng = london_crime2[london_crime2$Crime.type == "Robbery",]$Longitude,
  lat = london_crime2[london_crime2$Crime.type == "Robbery",]$Latitude,
  popup = london_crime2[london_crime2$Crime.type == "Robbery",]$Crime.type,
  # clusterOptions = markerClusterOptions(),
  group = "Robbery"
) %>%
addMarkers(
  lng = london_crime2[london_crime2$Crime.type == "Theft from the person",]$Longitude,
  lat = london_crime2[london_crime2$Crime.type == "Theft from the person",]$Latitude,
  popup = london_crime2[london_crime2$Crime.type == "Theft from the person",]$Crime.type,
  # clusterOptions = markerClusterOptions(),
  group = "Theft from the person"
) %>%
addMarkers(
  lng = london_crime2[london_crime2$Crime.type == "Vehicle crime",]$Longitude,
  lat = london_crime2[london_crime2$Crime.type == "Vehicle crime",]$Latitude,
  popup = london_crime2[london_crime2$Crime.type == "Vehicle crime",]$Crime.type,
  # clusterOptions = markerClusterOptions(),
  group = "Vehicle crime"
) %>%
addMarkers(
  lng = london_crime2[london_crime2$Crime.type == "Violence and sexual offences",]$Longitude,
  lat = london_crime2[london_crime2$Crime.type == "Violence and sexual offences",]$Latitude,
  popup = london_crime2[london_crime2$Crime.type == "Violence and sexual offences",]$Crime.type,
  # clusterOptions = markerClusterOptions(),
  group = "Violence and sexual offences"
) %>%
addMarkers(
  lng = london_crime2[london_crime2$Crime.type == "Other crime",]$Longitude,
  lat = london_crime2[london_crime2$Crime.type == "Other crime",]$Latitude,
  popup = london_crime2[london_crime2$Crime.type == "Other crime",]$Crime.type,
  # clusterOptions = markerClusterOptions(),
  group = "Other crime"
) %>%
addMarkers(
  lng = london_crime2[london_crime2$Crime.type == "Other theft",]$Longitude,
  lat = london_crime2[london_crime2$Crime.type == "Other theft",]$Latitude,
  popup = london_crime2[london_crime2$Crime.type == "Other theft",]$Crime.type,
  # clusterOptions = markerClusterOptions(),
  group = "Other theft"
) %>%
addPolygons(data = outline, lng = outline$Longitude, lat = outline$Latitude,
  fill = T, weight = 1, color = "#240b36") %>%
addLayersControl(
  overlayGroups = c("Drugs", "Anti-social behaviour", "Bicycle theft", "Burglary", "Criminal damage and
arson", "Possession of weapons", "Public order", "Shoplifting", "Robbery", "Theft from the person", "Vehicle cr
ime", "Violence and sexual offences", "Other crime", "Other theft"),

  options = layersControlOptions(collapsed = F))

```