

R Notebook

```
#install.packages("rio")
library("rio")
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
```

```
library("jsonlite")
```

```
df <- rio::import("2020-08-derbyshire-stop-and-search.csv")
```

```
names(df)
```

```
## [1] "Type"
## [2] "Date"
## [3] "Part of a policing operation"
## [4] "Policing operation"
## [5] "Latitude"
## [6] "Longitude"
## [7] "Gender"
## [8] "Age range"
## [9] "Self-defined ethnicity"
## [10] "Officer-defined ethnicity"
## [11] "Legislation"
## [12] "Object of search"
## [13] "Outcome"
## [14] "Outcome linked to object of search"
## [15] "Removal of more than just outer clothing"
```

```
head(df)
```

```
##           Type           Date Part of a policing operation
## 1      Person search 2020-08-01 02:15:00                NA
## 2 Person and Vehicle search 2020-08-01 13:26:00                NA
## 3      Person search 2020-08-01 16:08:00                NA
## 4      Person search 2020-08-01 22:00:00                NA
## 5      Person search 2020-08-01 22:00:00                NA
## 6      Person search 2020-08-02 14:55:00                NA
## Policing operation Latitude Longitude Gender Age range
## 1              NA 52.91919 -1.465285   Male   over 34
## 2              NA 53.46335 -1.967683   Male    25-34
## 3              NA 52.92196 -1.475678   Male   over 34
```

```

## 4          NA 52.89447 -1.413371 Male      10-17
## 5          NA 52.89447 -1.413371 Female    10-17
## 6          NA 52.92196 -1.475678 Male      over 34
##                                     Self-defined ethnicity
## 1 White - English/Welsh/Scottish/Northern Irish/British
## 2 White - English/Welsh/Scottish/Northern Irish/British
## 3                                     Other ethnic group - Not stated
## 4 White - English/Welsh/Scottish/Northern Irish/British
## 5 White - English/Welsh/Scottish/Northern Irish/British
## 6                                     Other ethnic group - Not stated
## Officer-defined ethnicity                                     Legislation
## 1          White Police and Criminal Evidence Act 1984 (section 1)
## 2          White Misuse of Drugs Act 1971 (section 23)
## 3          White Misuse of Drugs Act 1971 (section 23)
## 4          White Misuse of Drugs Act 1971 (section 23)
## 5          White Misuse of Drugs Act 1971 (section 23)
## 6          White Misuse of Drugs Act 1971 (section 23)
## Object of search                                     Outcome
## 1 Article for use in theft A no further action disposal
## 2 Controlled drugs Khat or Cannabis warning
## 3 Controlled drugs A no further action disposal
## 4 Controlled drugs A no further action disposal
## 5 Controlled drugs A no further action disposal
## 6 Controlled drugs A no further action disposal
## Outcome linked to object of search Removal of more than just outer clothing
## 1          TRUE FALSE
## 2          TRUE FALSE
## 3          TRUE FALSE
## 4          TRUE FALSE
## 5          TRUE FALSE
## 6          TRUE FALSE

df$url <- paste("http://api.postcodes.io/postcodes?lat=", df$Latitude, "&lon=", df$Longitude, sep="")
head(df$url)

## [1] "http://api.postcodes.io/postcodes?lat=52.919189&lon=-1.465285"
## [2] "http://api.postcodes.io/postcodes?lat=53.46335&lon=-1.967683"
## [3] "http://api.postcodes.io/postcodes?lat=52.921959&lon=-1.475678"
## [4] "http://api.postcodes.io/postcodes?lat=52.894466&lon=-1.413371"
## [5] "http://api.postcodes.io/postcodes?lat=52.894466&lon=-1.413371"
## [6] "http://api.postcodes.io/postcodes?lat=52.921959&lon=-1.475678"

df <- df %>% filter(!is.na(Latitude))

postcodes = c()
parishes = c()
for ( url in df$url ) {
  json = read_json(url)
  postcode = json$result[[1]]$postcode
  parish = json$result[[1]]$parish
  if ( (json$status == 200) && !is.null(postcode) ) {
    postcodes <- append(postcodes, postcode)
    parishes = append(parishes, parish)
  } else {
    postcodes <- append(postcodes, "unknown")
  }
}

```

```

    parishes <- append(parishes, "unknown")
  }
}
df$postcode = postcodes
df$parish = parishes

```

```
df %>% count(parish)
```

```

##                parish  n
## 1                Belper  3
## 2                Breaston 1
## 3  Chesterfield, unparished area 5
## 4                Clowne  2
## 5          Derby, unparished area 66
## 6    Draycott and Church Wilne  6
## 7                Duffield  1
## 8    Erewash, unparished area 11
## 9      Heanor and Loscoe  5
## 10   High Peak, unparished area  5
## 11                Killamarsh  1
## 12          Matlock Town  3
## 13                Overseal  1
## 14                Sawley  1
## 15          Scarcliffe  1
## 16    Shardlow and Great Wilne  1
## 17    Shirland and Higham  2
## 18 South Derbyshire, unparished area 2
## 19                unknown 11
## 20          Wingerworth  2
## 21          Winshill  1

```