

# Lab 9: APIs

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## Lab report

### Exercises

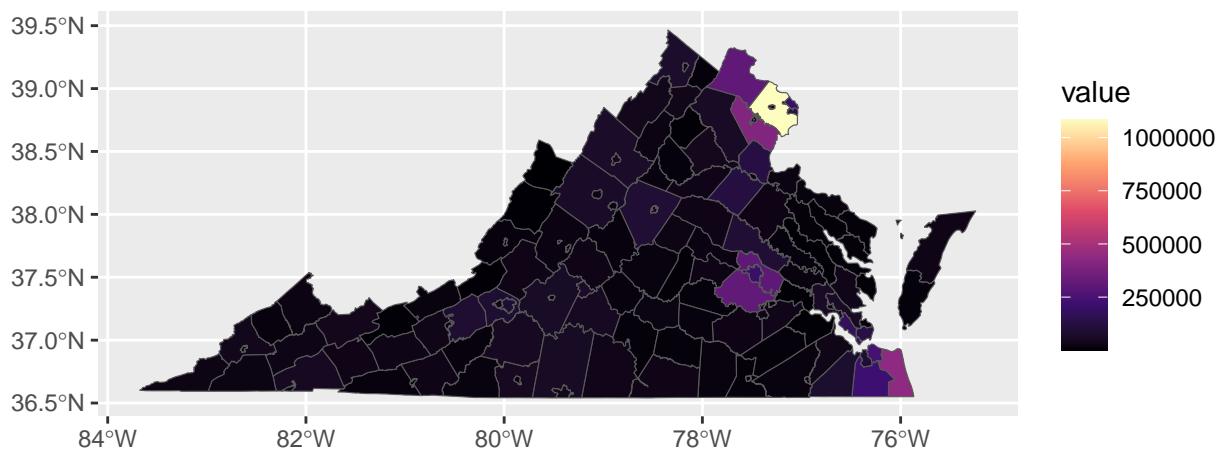
#### Exercise 1

```
## Getting data from the 2010 decennial Census

## Warning: * You have not set a Census API key. Users without a key are limited to 500
## queries per day and may experience performance limitations.
## i For best results, get a Census API key at
## http://api.census.gov/data/key_signup.html and then supply the key to the
## `census_api_key()` function to use it throughout your tidy census session.
## This warning is displayed once per session.

## Census API call: https://api.census.gov/data/2010/dec/sf1?get=P001001%2CNAME&for=county%3A%
```

## Using Census Summary File 1



## Exercise 2

## Exercise 3

```
## Getting data from the 2010 decennial Census
## Using Census Summary File 1
```

```
library(tidyr)

va_tracts_wide <- va_tracts_2010 %>%
  pivot_wider(
    names_from = variable,
    values_from = value
  )
```

## Exercise 4

```

library(dplyr)

va_tracts_final <- va_tracts_wide %>%
  mutate(
    pct_nonwhite = ((P001001 - P003002) / P001001) * 100,
    pct_owned = ((H004002 + H004003) / H001001) * 100
  )

```

### Exercise 5

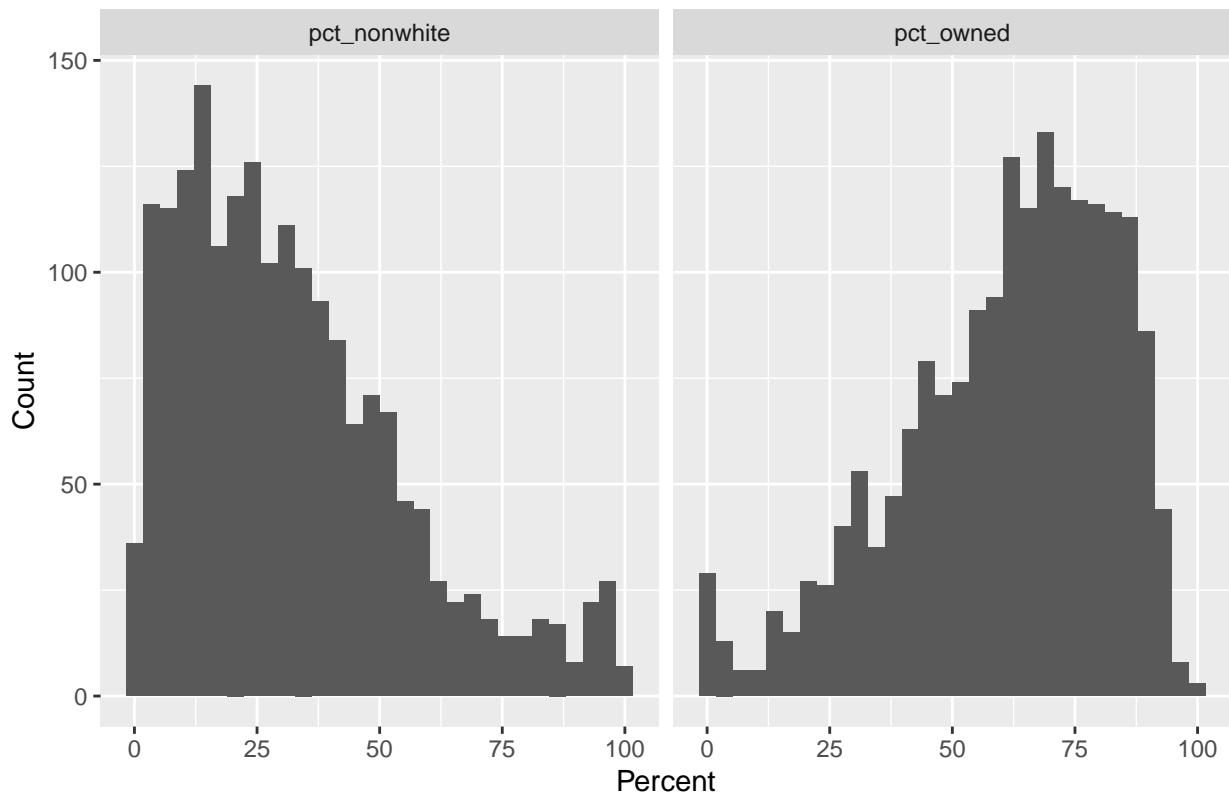
### Exercise 6

```

## Warning: Removed 43 rows containing non-finite outside the scale range
## ('stat_bin()').

```

Distributions of New Percentage Columns

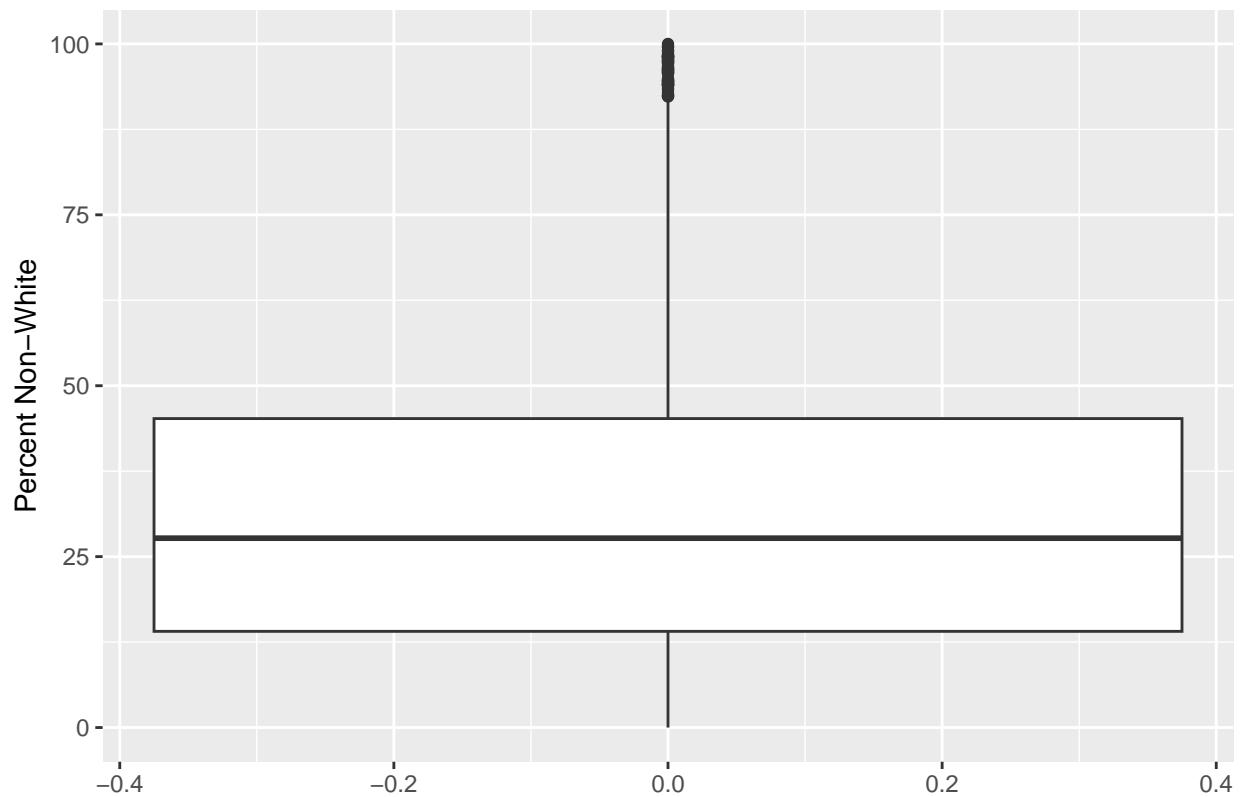


```

## Warning: Removed 21 rows containing non-finite outside the scale range
## ('stat_boxplot()').

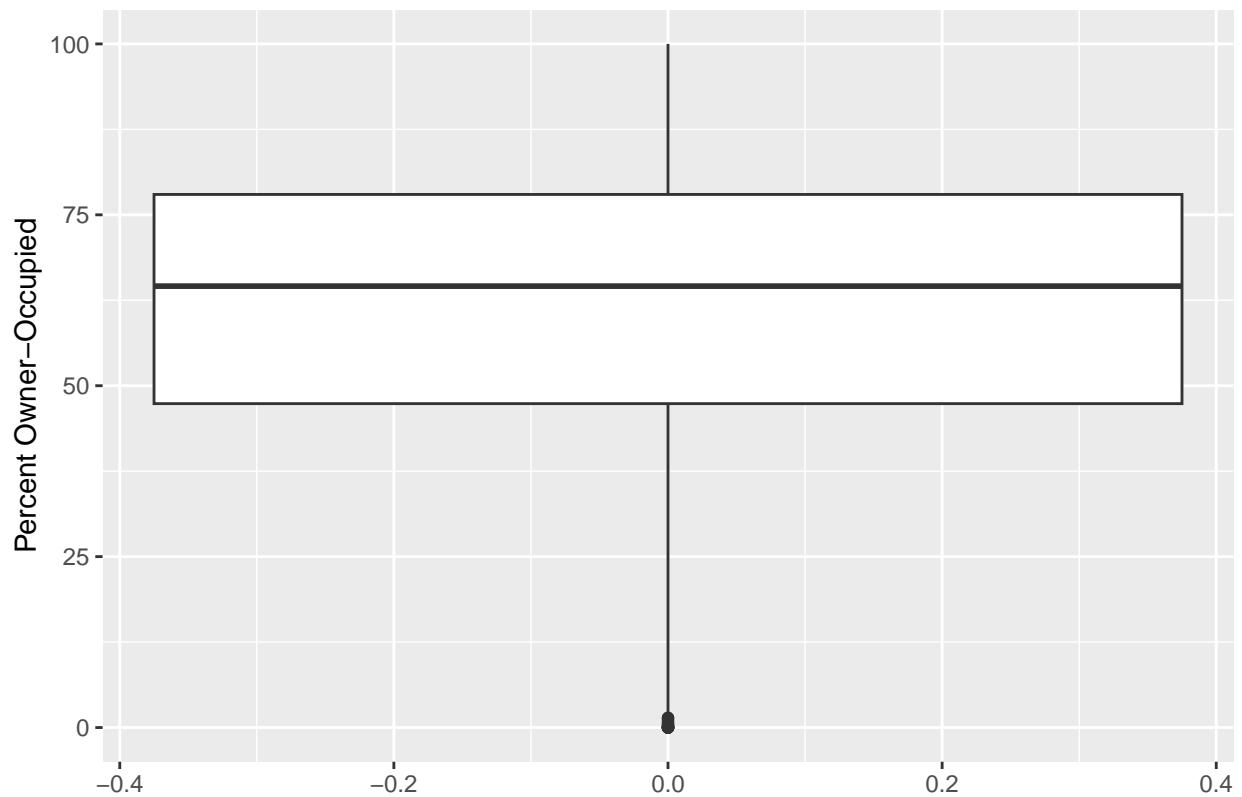
```

### Distribution: pct\_nonwhite



```
## Warning: Removed 22 rows containing non-finite outside the scale range
## ('stat_boxplot()').
```

### Distribution: pct\_owned



#### Exercise 7

```
## `geom_smooth()` using formula = 'y ~ x'

## Warning: Removed 24 rows containing non-finite outside the scale range
## (`stat_smooth()`).

## Warning: Removed 24 rows containing missing values or values outside the scale range
## (`geom_point()`).
```

## Relationship between Racial Composition and Home Ownership in Virginia

