a.) `population %>% inner_join(countyseats)`

State	county	year	Population	countyseat
California	Orange	2000	2846289	Santa Ana
California	Orange	2010	3010232	Santa Ana
California	Los Angeles	2000	3694820	Los Angeles
California	Los Angeles	2010	3694820	Los Angeles

b.) `population %>% inner_join(countyseats, by=c(state="statename"))`

State	county	year	Population	countyseat
California	Orange	2000	2846289	Santa Ana
California	Orange	2010	3010232	Santa Ana
California	Los Angeles	2000	3694820	Los Angeles
California	Los Angeles	2010	3694820	Los Angeles

c.)
```
population %>% inner_join(countyseats,
   by=c(state="statename",  county="countyname"))
```

State	county	year	Population	countyseat
California	Orange	2000	2846289	Santa Ana
California	Orange	2010	3010232	Santa Ana
California	Los Angeles	2000	3694820	Los Angeles
California	Los Angeles	2010	3694820	Los Angeles

d.)
```
population %>% inner_join(countyseats,
   by=c(state="statename",  county="countyname", year="countyseat"))
```

State	county	year	Population	countyseat
California	Orange	2000	2846289	Santa Ana
California	Orange	2010	3010232	Santa Ana
California	Los Angeles	2000	3694820	Los Angeles
California	Los Angeles	2010	3694820	Los Angeles

3a.) The data is not tidy as for one, the “YR 2015” column name represents a value but not a name. Secondly, the data could be longer rather than wider as it’s visually messy.

```r
library(tidyverse)
population <- tibble(state=c("California", "California", "California", "California"), county=c("Orange", "Orange", "Los Angeles", "Los Angeles"), year=c(2000, 2010, 2000, 2010), population=c(2846289, 3010232, 3694820, 3792621))
population
countyseats <- tibble(statename=c("California", "California", "California", "Oregon"), countyname=c("Orange","Los Angeles", "San Diego", "Wasco"), countyseat=c("Santa Ana", "Los Angeles", "San Diego", "The Dalles"))
countyseats

billboard
billboard2 <- billboard %>% pivot_longer(wk1:wk76, names_to = "week", values_to = "rank", values_drop_na = TRUE)
billboard2
billboard3 <- billboard2 %>% mutate(week = as.integer(gsub("wk", "", week)),date = as.Date(date.entered) + 7 * (week - 1),date.entered = NULL)
billboard3

billboard3 %>% select(track, week)
billboard3 %>% arrange(desc(week)) %>% select(track, week)
billboard3 %>% group_by(track) %>% top_n(1, rank) %>% select(track, rank)
billboard3 %>% group_by(track) %>% top_n(1, -rank) %>% select(track, rank)
billboard3 %>% group_by(artist) %>% top_n(1, rank) %>% select(artist, rank)
billboard3 %>% group_by(artist) %>% top_n(1, -rank) %>% select(artist, rank)
billboard3 %>% filter(rank > 35) %>% select(track, rank)
billboard3 %>% filter(rank > 35) %>% select(artist, track, rank)

demo <- read_csv("demographics.csv")
```