Homework 5 – Question 2

I must be doing something wrong but I could not get this project to load into my github repository. So I have pasted my code here, and included the plot.

By reshaping the data it added new columns – Value and Measure. Measure now states it is the unemployment percentage and the value column is the actual value for that column.

```
Console  Terminal  Background Jobs
R 4.4.1 · ~/
> load("~/house_prices.rda")
>
> library(ggplot2)
> library(tidyr)
> 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(lubridate)

Attaching package: 'lubridate'

The following objects are masked from 'package:base':

    date, intersect, setdiff, union

> #line plot
> ggplot(house_prices, aes(x = date, y = house_price_index)) +
+     geom_line() +
+     facet_wrap(~ state) +
+     scale_x_continuous(breaks = as.Date(c("1980-01-01", "2000-01-01", "2020-01-01")), labels = c("80", "00", "20")) +
+     labs(title = "Trend of House Price Index Over Years for Each State",
+          x = "Year",
+          y = "House Price Index") +
+     theme_minimal()
>
> #reshape the data
> house_reshaped <- house_prices %>%
+     gather(key = "measure", value = "value", -c(house_price_index, date, state))
```

```
>
> #plot the data with two lines for house_price_index and unemploy_perc
>
> ggplot(house_reshaped, aes(x = date, y = value, color = measure)) +
+     geom_line() +
+     facet_wrap(~ state) +
+     scale_x_continuous(breaks = as.Date(c("1980-01-01", "2000-01-01", "2020-01-01")), labels = c("80", "00", "20")) +
+     labs(title = "Trends of House Price Index and Unemployment Percentage Over Years for Each State",
+          x = "Year",
+          y = "value") +
+     theme_minimal()
> ggplot(house_reshaped, aes(x = date, y = value, color = measure)) +
      +     geom_line() +
      +     facet_wrap(~ state) +
      +     scale_x_continuous(breaks = as.Date(c("1980-01-01", "2000-01-01", "2020-01-01")), labels = c("80", "00", "20")) +
      +     labs(title = "House Price Index and Unemployment Percentage for Each State (Years)",
                +          x = "Year",
                +          y = "Value") +
      +     theme_minimal()
```

The Plot is below. Because I exported the plot to a PDF from Rstudio, I am unable to alter the look. Due to this the plot looks sloppy and hard to read.


Trends of House Price Index and Unemployment Percentage Over Years for Each State
Alabama
Alaska
Arizona
Arkansas
California
Colorado
Connecticut
Delaware
trict of Colum
Florida
Georgia
Hawaii
Idaho
Illinois
Indiana
Iowa
Kansas
Kentucky
Louisiana
Maine
Maryland
lassachusett
Michigan
Minnesota
Mississippi
Missouri
Montana
Nebraska
Nevada
ew Hampshir
New Jersey
New Mexico
New York
lorth Carolin
North Dakota
Ohio
Oklahoma
Oregon
Pennsylvania
Rhode Island
outh Carolin
South Dakota
Tennessee
Texas
Utah
Vermont
Virginia
Washington
West Virginia
Wisconsin
Wyoming
80 00 20
Value
Year
measure
house_price_perc
unemploy_perc