Homework 4

Voting in the United Nations General Assembly

Like legislators in the US Congress, the member states of the United Nations (UN) are politically divided on many issues such as trade, nuclear disarmament, and human rights. During the Cold War, countries in the UN General Assembly tended to split into two factions: one led by the capitalist United States and the other by the communist Soviet Union. In this exercise, we will analyze how states' ideological positions, as captured by their votes on UN resolutions, have changed since the fall of communism.

In the analysis that follows, we measure state preferences in two ways. First, we can use the proportion of votes by each country that coincide with votes on the same issue cast by the two major Cold War powers: the United States and the Soviet Union. For example, if a country voted for ten resolutions in 1992, and if its vote matched the United States's vote on exactly six of these resolutions, the variable PctAgreeUS in 1992 would equal 60 for this country. Second, we can also measure state preferences in terms of numerical ideal points as explained in Section 3.5. These ideal points capture what international relations scholars have called countries' liberalism on issues such as political freedom, democratization, and financial liberalization. The two measures are highly correlated, with larger (more liberal) ideal points corresponding to a higher proportion of votes that agree with the US.

Loading the data

```
library(knitr)
opts_chunk$set(tidy.opts = list(width.cutoff = 60), tidy = TRUE)
knitr::opts_chunk$set(error = TRUE)

un.votes <- read.csv("unvoting.csv")
```

Name	Description
CountryName	The name of the country
CountryAbb	The abbreviated name of the country
idealpoint	Estimated ideal point
Year	The year for which the ideal point is estimated
PctAgreeUS	The proportion of votes that match votes cast by the US
PctAgreeRUSSIA	The proportion of votes that match votes cast by Russia/USSR

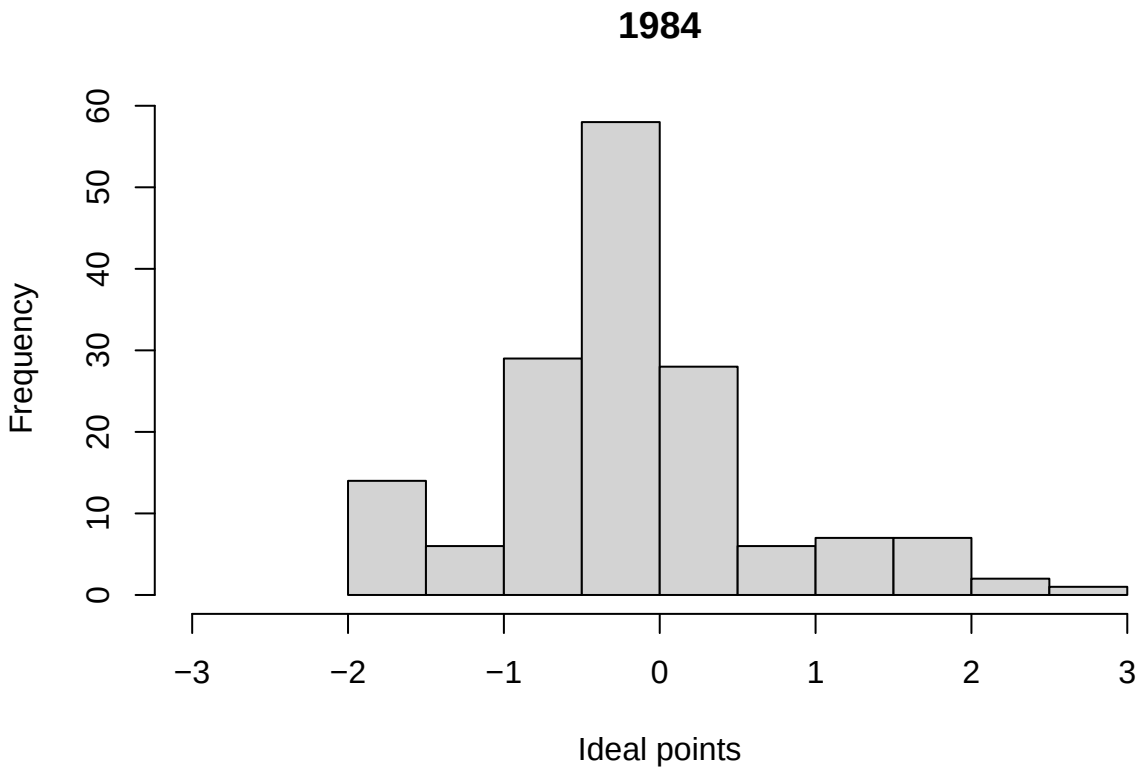
Questions

Question 1

1.1. Plot the (frequency) distribution of ideal points for the year 1984–about six years before fall of the Berlin Wall. Add meaningful axis labels and a plot title.

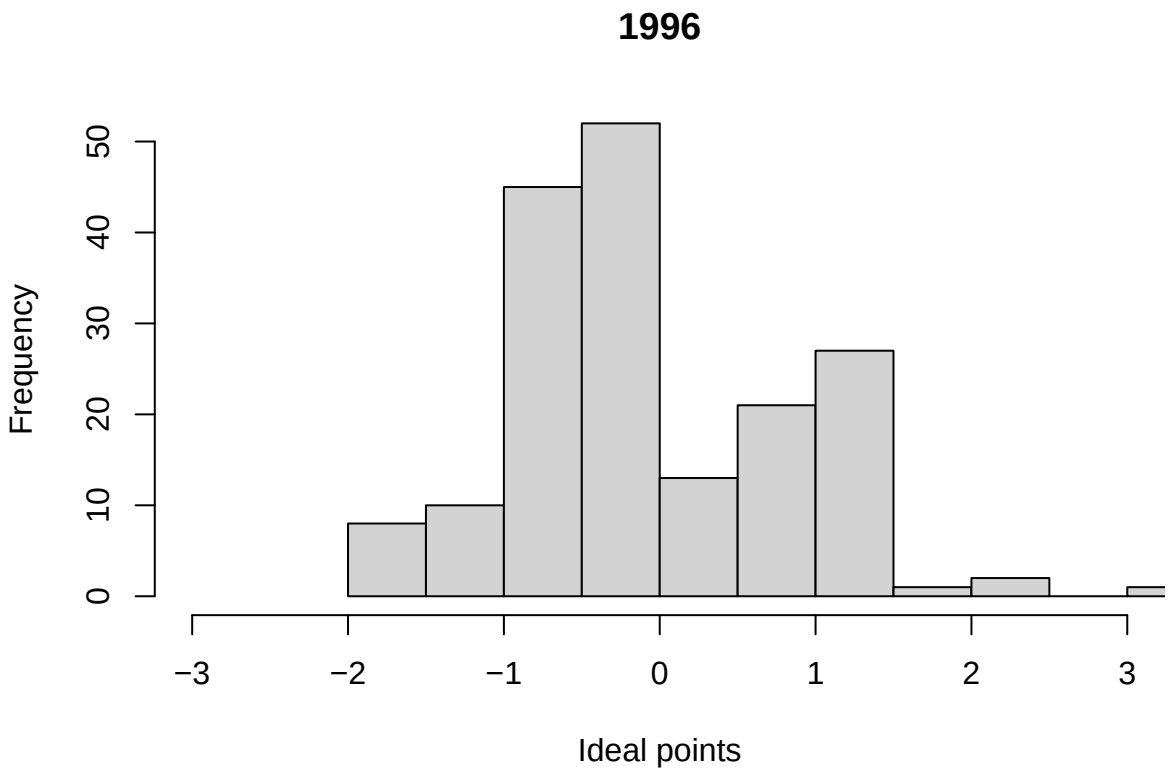
```r
un1984 <- un.votes[un.votes$Year == 1984, ]

hist(un1984$idealpoint, xlim = c(-3, 3), xlab = "Ideal points",
    main = "1984")
```



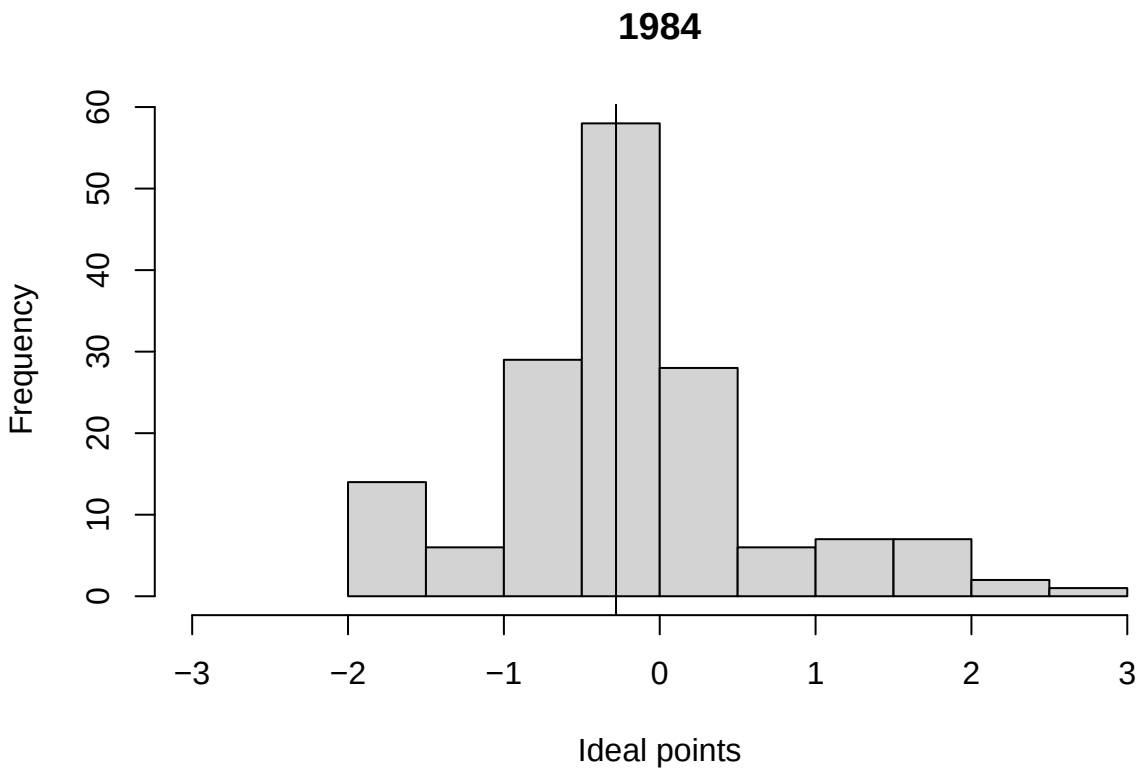
1.2. Plot the (frequency) distribution of ideal points for the year 1996–about six years after the fall of the Berlin Wall. Add meaningful axis labels and a plot title.

```r
un1996 <- un.votes[un.votes$Year == 1996, ]
hist(un1996$idealpoint, xlim = c(-3, 3), xlab = "Ideal points",
    main = "1996")
```



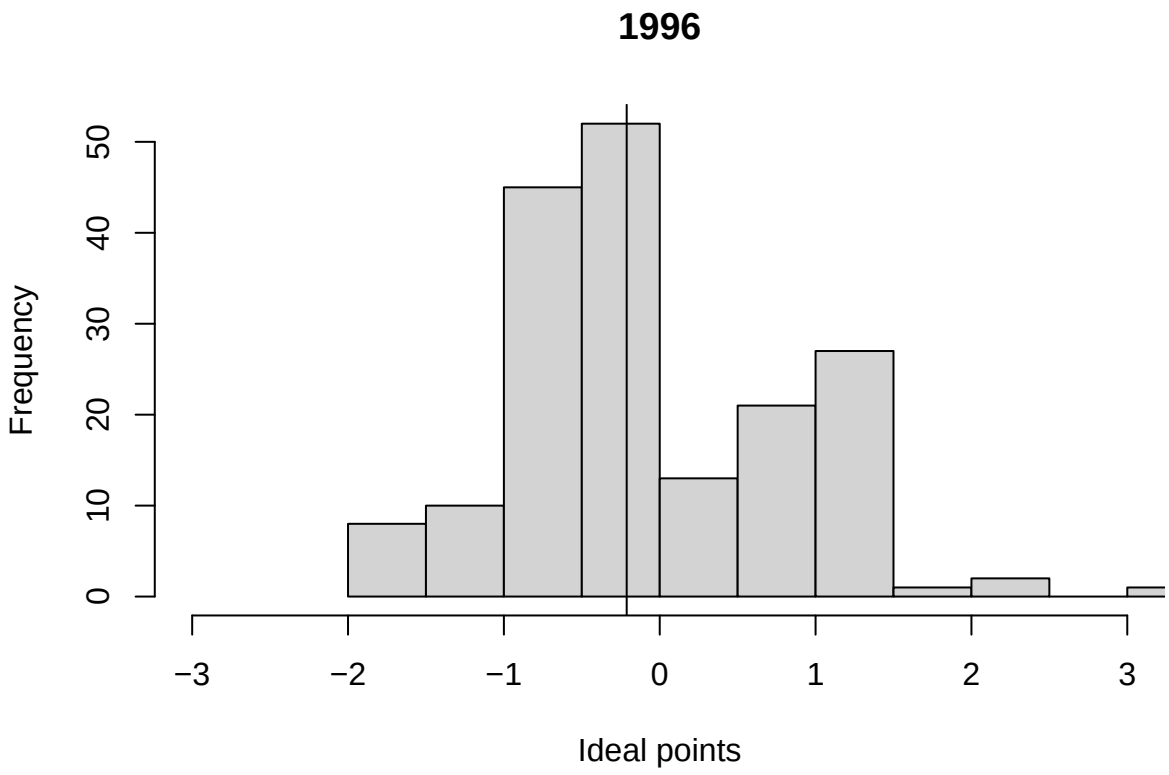
1.3. Add the median to each plot as a vertical line. (Note: you will need to copy your code from 1.1 and 1.2 below before adding the lines.)

```
hist(un1984$idealpoint, xlim = c(-3, 3), xlab = "Ideal points",
    main = "1984")
abline(v = median(un1984$idealpoint))
```




```
hist(un1996$idealpoint, xlim = c(-3, 3), xlab = "Ideal points",
    main = "1996")

abline(v = median(un1996$idealpoint))
```



1.4. How do the distributions of ideal points differ between 1984 and 1996? Compute the standard deviation of each year and then difference them.

```
sd(un1984$idealpoint) - sd(un1996$idealpoint)
```

```
## [1] -0.02710145
```

Answer: -0.03

Question 2

2.1. Create a vector of unique years in the dataset.

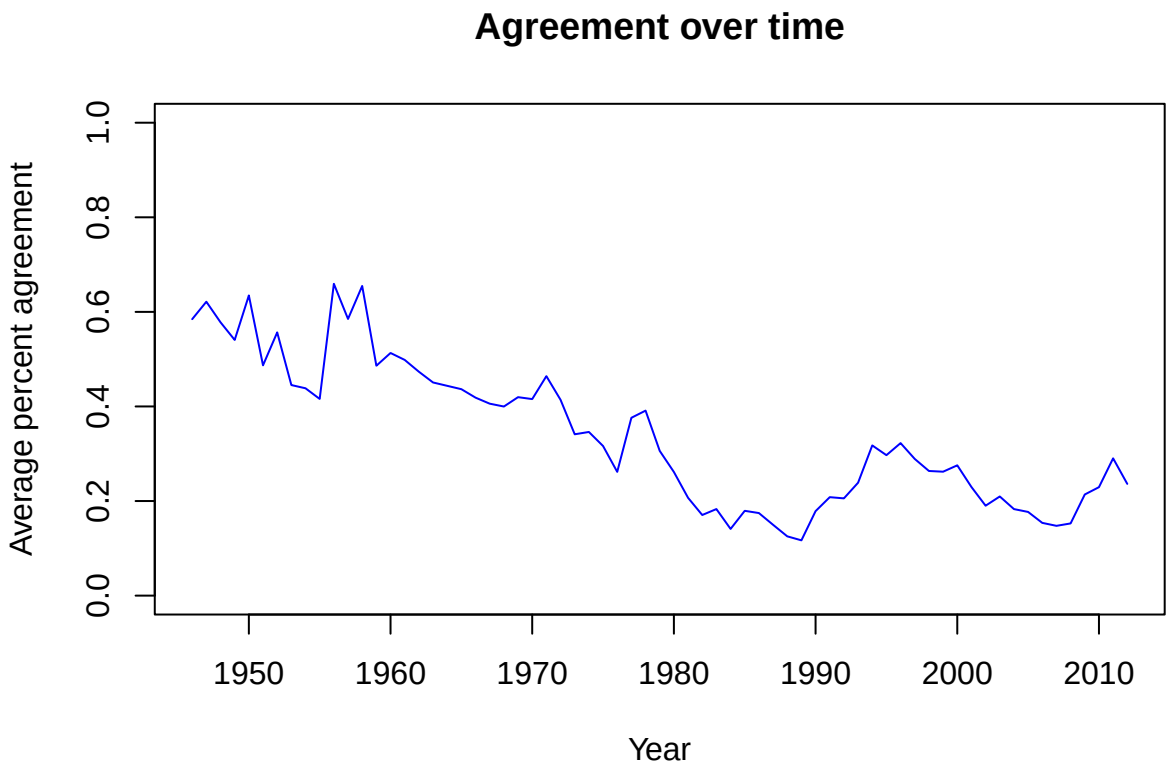
```
years <- unique(un.votes$Year)
```

2.2. Create a vector that contains the percent agreement with the US for each year.

```
usa <- tapply(un.votes$PctAgreeUS, un.votes$Year, mean, na.rm = TRUE)
```

2.3. Using the results from 2.1 and 2.2 plot the average percent agreement with the US for all countries each year. This should be a line plot. Add meaningful axis labels and a plot title. Make this line blue.

```
plot(x = years, y = usa, ylim = c(0, 1), xlab = "Year", ylab = "Average percent agreement",
    type = "l", main = "Agreement over time", col = "blue")
```

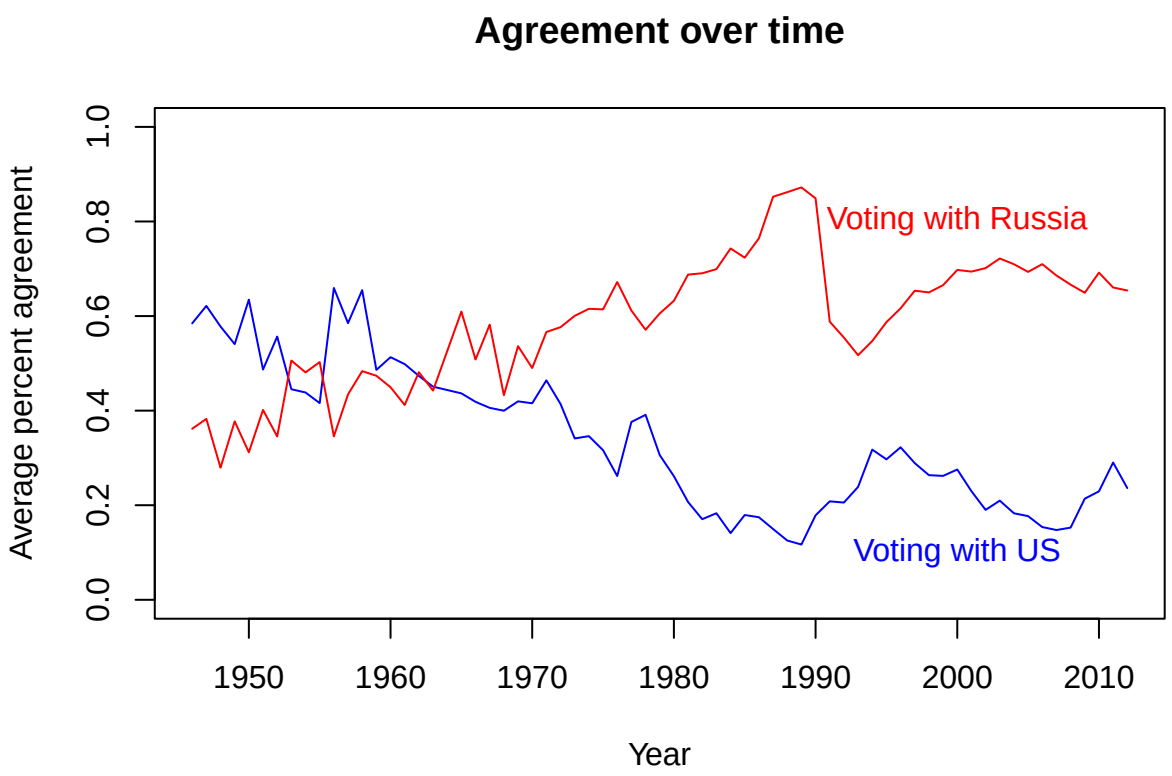


2.4. Repeat 2.2 and 2.3 to add the average percent agreement with Russia. This should be an additional line to the plot from 2.3 (You will need to copy your code from 2.3.) Add meaningful axis labels and a plot title. Make this line red.

```r
rus <- tapply(un.votes$PctAgreeRUSSIA, un.votes$Year, mean, na.rm = TRUE)
plot(x = years, y = usa, ylim = c(0, 1), xlab = "Year", main = "Agreement over time",
    ylab = "Average percent agreement", type = "l", col = "blue")

lines(x = years, y = rus, col = "red")

# optional
text(2000, 0.1, "Voting with US", col = "blue")
text(2000, 0.8, "Voting with Russia", col = "red")
```



2.5. Were countries closer to the US or Russia in 1946? How about 2012? To do this subtract agreement with Russia from agreement with the US.

```r
tapply(un.votes$PctAgreeUS, un.votes$Year, mean) - tapply(un.votes$PctAgreeRUSSIA,
    un.votes$Year, mean)
```

```
##         1946         1947         1948         1949         1950         1951
##  0.222888628  0.238795896  0.298503268  0.163433721  0.322841228  0.085463028
##         1952         1953         1954         1955         1956         1957
##  0.211265478 -0.060687382 -0.042509143 -0.086773442  0.313751688  0.150652113
##         1958         1959         1960         1961         1962         1963
##  0.171260968  0.012299554  0.063549590  0.086381574 -0.007889482  0.008376315
##         1965         1966         1967         1968         1969         1970
## -0.172930609 -0.089527615 -0.175864518 -0.032768222 -0.116771168 -0.074498746
##         1971         1972         1973         1974         1975         1976
## -0.102269807 -0.162558409 -0.259340235 -0.269271605 -0.297754938 -0.410314917
##         1977         1978         1979         1980         1981         1982
## -0.235522860 -0.179905664 -0.299518315 -0.370807864 -0.480996166 -0.520019109
##         1983         1984         1985         1986         1987         1988
```

```
## -0.516249118 -0.601921539 -0.544143711 -0.589791449 -0.702623108 -0.736690433
##         1989         1990         1991         1992         1993         1994
## -0.755210952 -0.670347964           NA           NA -0.278534088 -0.229659982
##         1995         1996         1997         1998         1999         2000
## -0.290116361 -0.293926330 -0.364664954 -0.386372752 -0.403406337 -0.422008828
##         2001         2002         2003         2004         2005         2006
## -0.464367906 -0.511305285 -0.512072925 -0.526639641 -0.516439946 -0.555994607
##         2007         2008         2009         2010         2011         2012
## -0.538198958 -0.513806838 -0.435429903 -0.462457500 -0.370167715 -0.417822232
```

Answer (1946): .22 (US) Answer (2012): -.42 (Russia)

2.6. Which five countries are, across all years, agree the least with the US?

```
(avg.agree <- sort(tapply(un.votes$PctAgreeUS, un.votes$CountryName,
    mean, na.rm = TRUE), decreasing = F)[1:5])
```

```
##              Zanzibar           North Korea               Vietnam
##            0.00000000             0.06151389            0.09460188
## Sao Tome and Principe               Zimbabwe
##            0.12585149             0.12615944
```

Answer: Zanzibar, North Korea, Vietnam, Sao Tome and Principe, Zimbabwe

2.7. Which five countries are, across all years, agree the most with the US?

```
(avg.agree <- sort(tapply(un.votes$PctAgreeUS, un.votes$CountryName,
    mean, na.rm = TRUE), decreasing = TRUE)[2:6])
```

```
##                          Palau                 United Kingdom
##                      0.7356335                      0.6521001
##                         Taiwan                         Israel
##                      0.6430106                      0.6399077
## Federated States of Micronesia
##                      0.5937617
```

Answer: Palau, United Kingdom, Taiwan, Israel, Federated States of Micronesia

Question 3

3.1. One problem with using the proportion of votes that agree with the US or Russia as a measure of state preferences is that the ideological positions and voting patterns of the US and Russia might also change over time. This makes it difficult to know if the US, Russia or both changed ideological positions.

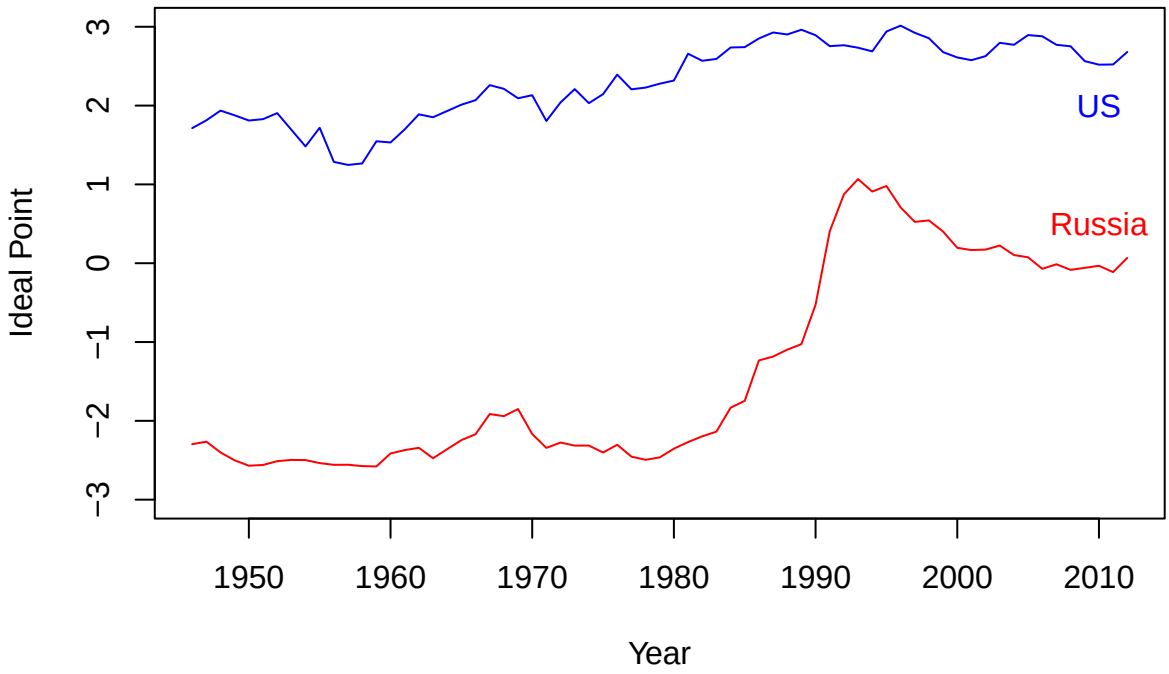
Investigate this issue by plotting ideal points for the US over time as a Red line. Add a blue line for Russian ideal points over time. (You will generate a plot with ideal points on the y-axis and years on the x-axis.) Add meaningful axis labels and a plot title.

```
usa <- un.votes[un.votes$CountryAbb == "USA", ]
rus <- un.votes[un.votes$CountryAbb == "RUS", ]

plot(usa$Year, usa$idealpoint, ylim = c(-3, 3), xlab = "Year",
```

```
    ylab = "Ideal Point", type = "l", col = "blue")
lines(x = rus$Year, y = rus$idealpoint, col = "red")

text(2010, 2, "US", col = "blue")
text(2010, 0.5, "Russia", col = "red")
```

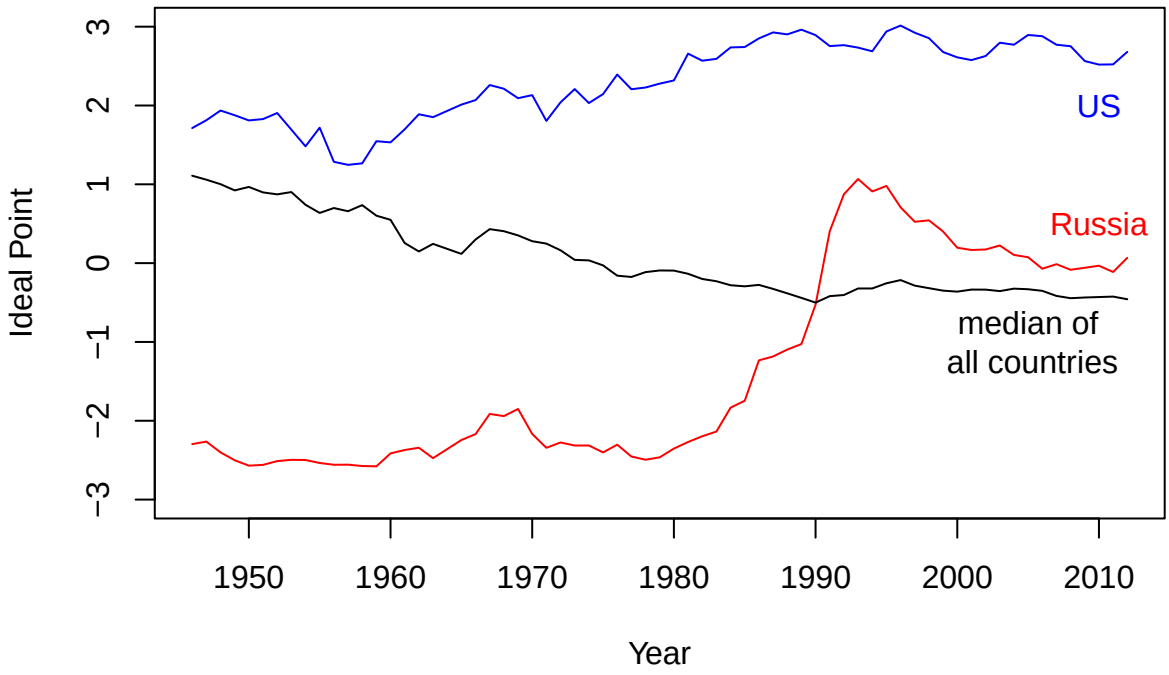


3.2. To truly understand this shift, we will need to plot a representation of movement among all countries excluding Russia and the US. Compute the median for all countries (excluding the US and Russia) each year and add this to the plot as a black line. (you will need to copy your code from 3.1 to the chunk below).

```
oth <- un.votes[un.votes$CountryAbb != "USA" & un.votes$CountryAbb !=
    "RUS", ]
meds <- tapply(oth$idealpoint, oth$Year, median)

plot(usa$Year, usa$idealpoint, ylim = c(-3, 3), xlab = "Year",
    ylab = "Ideal Point", type = "l", col = "blue")

lines(x = rus$Year, y = rus$idealpoint, col = "red")
text(2010, 2, "US", col = "blue")
text(2010, 0.5, "Russia", col = "red")
lines(x = as.numeric(names(meds)), y = meds)
text(2005, -1, "median of\n all countries")
```



Question 4

4.1. Let's examine how countries that were formerly part of the Soviet Union differ in terms of their ideology and UN voting compared to countries that were not part of the Soviet Union.

The countries are Estonia, Latvia, Lithuania, Belarus, Moldova, Ukraine, Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, and Russia were part of the Soviet Union. How many countries were not former Soviet republics.

```
post.soviet <- c("Estonia", "Latvia", "Lithuania", "Belarus",
    "Moldova", "Ukraine", "Armenia", "Azerbaijan", "Georgia",
    "Kazakhstan", "Kyrgyzstan", "Tajikistan", "Turkmenistan",
    "Uzbekistan", "Russia")

un.votes$post.soviet <- 0
un.votes$post.soviet[un.votes$CountryName %in% post.soviet] <- 1

length(unique(un.votes$CountryName[un.votes$post.soviet == 0]))
```

```
## [1] 182
```

Answer: 182

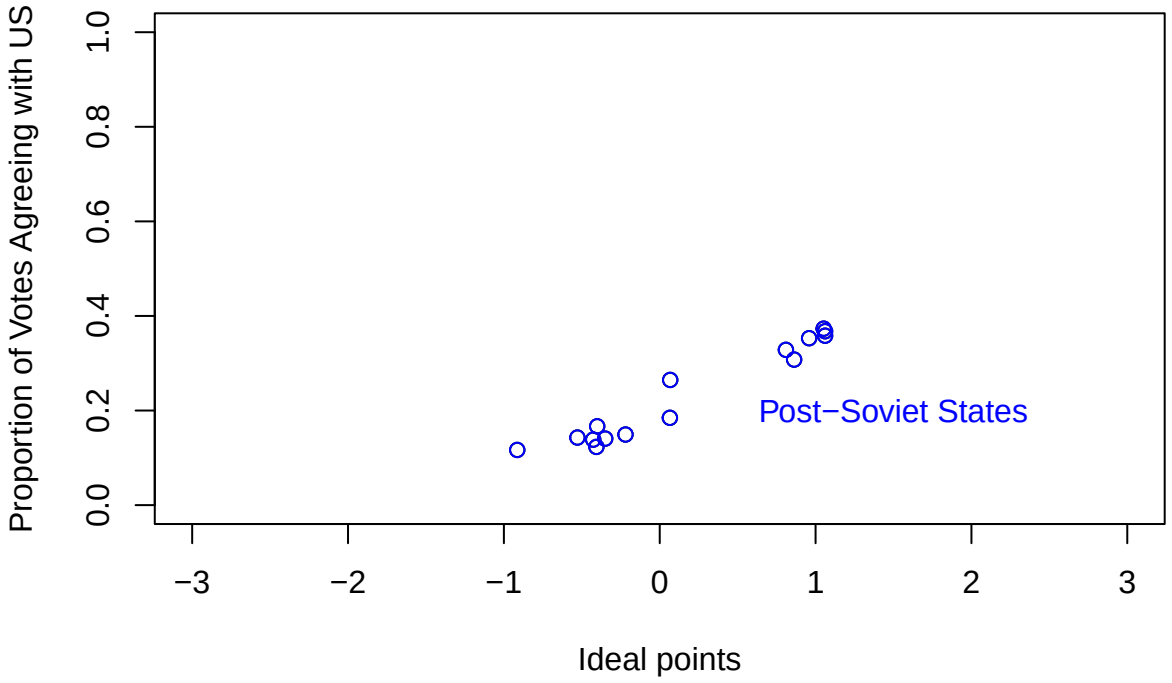
4.2. Focus on 2012 and plot each post-Soviet state's ideal point (x) and the proportion of its votes that agree with the United States (y) using a scatterplot (color these countries in blue). Add meaningful axis labels and a plot title.

```
un12ps <- un.votes[un.votes$Year == 2012 & un.votes$post.soviet ==
    1, ]

plot(un12ps$idealpoint, un12ps$PctAgreeUS, xlim = c(-3, 3), ylim = c(0,
```

```
    1), xlab = "Ideal points", ylab = "Proportion of Votes Agreeing with US")

points(un12ps$idealpoint, un12ps$PctAgreeUS, col = "blue")
text(1.5, 0.2, "Post-Soviet States", col = "blue")
```



Question 5

5.1. While some post-Soviet countries retained non-liberal ideologies, other post-Soviet countries became much more liberal over time. Compute the median ideal point for former Soviet countries each year.

```
post.soviet.un <- un.votes[un.votes$post.soviet == 1, ]
soviet <- tapply(post.soviet.un$idealpoint, post.soviet.un$Year,
    median)
```

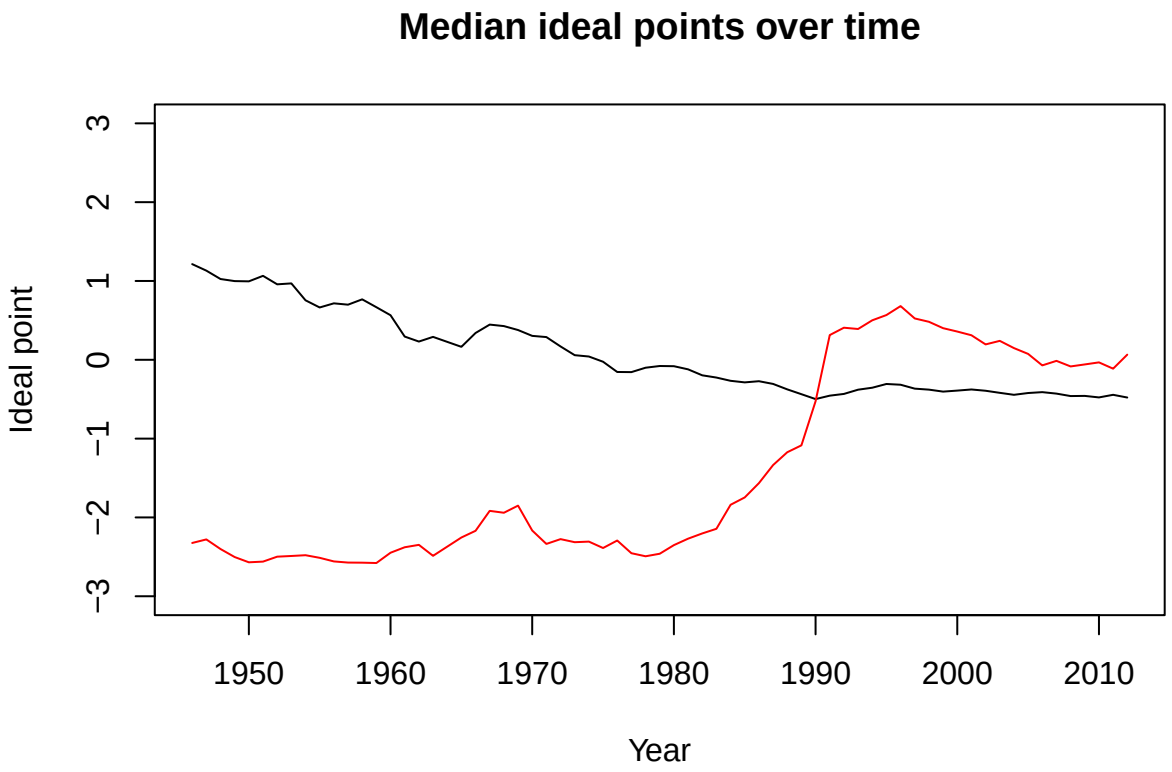
5.2. Compute the median ideal point for all states that were never part of the USSR by year.

```
no.soviet.un <- un.votes[un.votes$post.soviet == 0, ]
regular <- tapply(no.soviet.un$idealpoint, no.soviet.un$Year,
    median)
```

5.3. Plot the median ideal point (y) for all former Soviet states over time (x). Make this a red line. Add a separate black line for the yearly median of all non-Soviet states. Add meaningful axis labels and a plot title.

```
years <- unique(un.votes$Year)
plot(x = years, y = regular, type = "l", ylim = c(-3, 3), xlab = "Year",
    main = "Median ideal points over time", ylab = "Ideal point")

lines(x = years, y = soviet, col = "red")
```

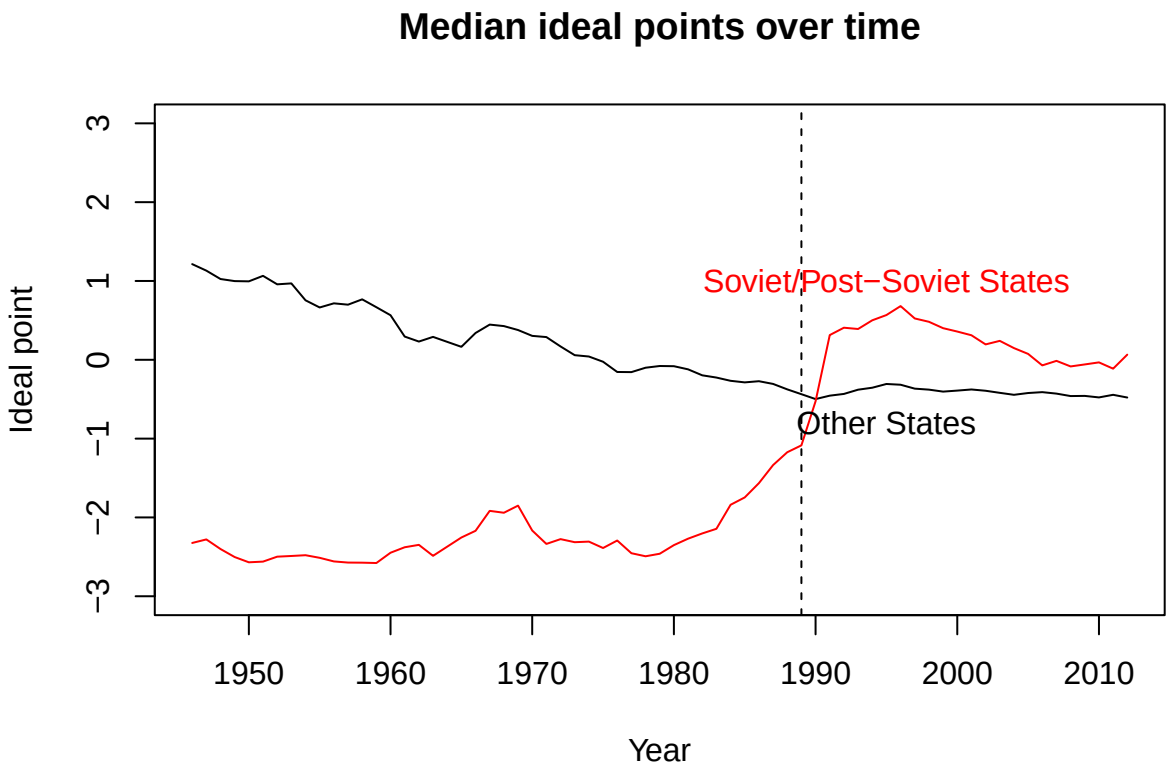


5.4. Copy your code from 5.3 Add a vertical line at 1989, the year of the fall of the Berlin Wall, on the graph.

```
years <- unique(un.votes$Year)
plot(x = years, y = regular, type = "l", ylim = c(-3, 3), xlab = "Year",
    main = "Median ideal points over time", ylab = "Ideal point")

lines(x = years, y = soviet, col = "red")

abline(v = 1989, lty = "dashed")
# Optional
text(1995, -0.8, "Other States")
text(1995, 1, "Soviet/Post-Soviet States", col = "red")
```



Question 6

6.1. Ideal points change over time. Which three countries moved the most between their minimum observed ideal point their maximum observed ideal point?

```
max <- tapply(un.votes$idealpoint, un.votes$CountryName, max,
    na.rm = T)
min <- tapply(un.votes$idealpoint, un.votes$CountryName, min,
    na.rm = T)
range <- max - min
sort(range, decreasing = T)[1:3]
```

```
##  Albania  Hungary  Romania
## 4.081623 3.981001 3.901014
```

Answer: Albania, Hungary and Romania