4Chan Scraper v2

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Load in the needed libraries.

```
library("rvest")
library("tidyverse")
library("ggplot2")
library("wordcloud")
library("tidytext")
library("tinytex")
```

This chunk is scraping all the internal links on each page of pol.

```
#Page 1 Scrape
pol_threads1 <- read_html("https://boards.4channel.org/pol/") %>%
  html_elements("a") %>%
  html_attr('href')

#Page 2 Scrape
pol_threads2 <- read_html("https://boards.4channel.org/pol/2") %>%
  html_elements("a") %>%
  html_attr('href')

#Page 3 Scrape
pol_threads3 <- read_html("https://boards.4channel.org/pol/3") %>%
  html_elements("a") %>%
  html_attr('href')

#Page 4 Scrape
pol_threads4 <- read_html("https://boards.4channel.org/pol/4") %>%
  html_elements("a") %>%
  html_attr('href')


#Page 5 Scrape
pol_threads5 <- read_html("https://boards.4channel.org/pol/5") %>%
  html_elements("a") %>%
  html_attr('href')

#Page 6 Scrape
pol_threads6 <- read_html("https://boards.4channel.org/pol/6") %>%
  html_elements("a") %>%
  html_attr('href')

#Page 7 Scrape
pol_threads7 <- read_html("https://boards.4channel.org/pol/7") %>%
```

```
  html_elements("a") %>%
  html_attr('href')

#Page 8 Scrape
pol_threads8 <- read_html("https://boards.4channel.org/pol/8") %>%
  html_elements("a") %>%
  html_attr('href')

#Page 9 Scrape
pol_threads9 <- read_html("https://boards.4channel.org/pol/9") %>%
  html_elements("a") %>%
  html_attr('href')

#Page 10 Scrape
pol_threads10 <- read_html("https://boards.4channel.org/pol/10") %>%
  html_elements("a") %>%
  html_attr('href')
```

Combining all the internal links into 1 data frame.

```
df_pol <-      c(pol_threads1,
                 pol_threads2,
                 pol_threads3,
                 pol_threads4,
                 pol_threads5,
                 pol_threads6,
                 pol_threads7,
                 pol_threads8,
                 pol_threads9,
                 pol_threads10)
```

Next, put the scraped links into a table (called tibble).

```
pol_table <- tibble(txt = df_pol)
```

Choosing all of the links that look like: "thread/this-is-a-thread". More precisely, it's the `href` internal links on pol that are named "thread" with a trailing title, separated by a slash.

```
df_links <- pol_table %>%
  filter(str_detect(txt, "(thread/[0-9]{6,}[/][a-z]{1,})"))
```

The `href` internal links don't have the appropriate full URL link, so it is added in the code block below. This is appending on "https://boards.4chan.org/pol/" before the "thread/this-is-a-thread" section.

```
df_links$txt <- paste("https://boards.4chan.org/pol/", df_links$txt, sep = "")
```

This code will "apply" the "read_html", "html_elements", and "html_text", to each row in the data frame.

```
threads <- lapply(df_links$txt, function(x) {
  read_html(x) %>%
    html_text()})
```

Now, a table (called tibble) needs to be constructed for tidytext to work properly.

```
threads_tibble <- tibble(txt = threads)
```

Break up all of the sentences into single words.

```
tidy_pol <- threads_tibble %>%
  unnest_tokens(word, txt, format = "text")
```

Please excuse this enormous filter list. This cleans up the noise from scraping the entire HTML page. In the filter are other board names, and various text that detract from the words of interest. There can be more words added, but the most frequently appearing 200 words appear to be unaffected when using this filter list.

```
tidy_pol_fixed <- tidy_pol %>%
  filter(!word %in% stop_words$word
         & !word == "fucking"
         & !word == "https"
         & !word == "shit"
         & !word == "id"
         & !word == "anonymous"
         & !word == "wed"
         & !word == "kb"
         & !word == "var"
         & !word == "png"
         & !word == "mobile"
         & !word == "mb"
         & !word == "catalog"
         & !word == "settings"
         & !word == "display"
         & !word == "advertise"
         & !word == "pass"
         & !word == "bottom"
         & !word == "pol"
         & !word == "shit"
         & !word == "jpg"
         & !word == "view"
         & !word == "vp"
         & !word == "ad"
         & !word == "tv"
         & !word == "fit"
         & !word == "post"
         & !word == "thread"
         & !word == "hr"
         & !word == "gif"
         & !word == "webm"
         & !word == "incorrect"
         & !word == "tg"
         & !word == "comments"
         & !word == "search"
         & !word == "top"
         & !word == "site"
         & !word == "home"
         & !word == "reply"
         & !word == "board"
         & !word == "politically"
         & !word == "return"
         & !word == "time"
         & !word == "owned"
         & !word == "added"
         & !word == "vip"
```

```
        & !word == "users"
        & !word == "rules"
        & !word == "legal"
        & !word == "lgbt"
        & !word == "lit"
        & !word == "file"
        & !word == "mu"
        & !word == "hide"
        & !word == "fa"
        & !word == "responsibility"
        & !word == "style"
        & !word == "options"
        & !word == "table"
        & !word == "page"
        & !word == "serve"
        & !word == "contact"
        & !word == "images"
        & !word == "international"
        & !word == "poster"
        & !word == "people"
        & !word == "true"
        & !word == "bant"
        & !word == "vm"
        & !word == "vmg"
        & !word == "vrpg"
        & !word == "vst"
        & !word == "read"
        & !word == "news"
        & !word == "image"
        & !word == "posts"
        & !word == "jp"
        & !word == "sci"
        & !word == "vg"
        & !word == "po"
        & !word == "toy"
        & !word == "vt"
        & !word == "wg"
        & !word == "biz"
        & !word == "ck"
        & !word == "desktop"
        & !word == "enable"
        & !word == "feedback"
        & !word == "int"
        & !word == "verification"
        & !word == "respective"
        & !word == "vr"
        & !word == "wsg"
        & !word == "aco"
        & !word == "adv"
        & !word == "delete"
        & !word == "cm"
        & !word == "disable"
        & !word == "bfutababurichantomorrowphoton"
```

```
        & !word == "cgl"
        & !word == "comlen"
        & !word == "cooldowns"
        & !word == "copyrights"
        & !word == "cssversion"
        & !word == "diy"
        & !word == "gd"
        & !word == "hc"
        & !word == "ic"
        & !word == "incorrectreturn"
        & !word == "jsversion"
        & !word == "maxfilesize"
        & !word == "maxlines"
        & !word == "mlp"
        & !word == "payment"
        & !word == "postform"
        & !word == "pw"
        & !word == "qa"
        & !word == "qst"
        & !word == "recaptcha"
        & !word == "refresh"
        & !word == "replyreturn"
        & !word == "soc"
        & !word == "sp"
        & !word == "trademarks"
        & !word == "trv"
        & !word == "uploaded"
        & !word == "hm"
        & !word == "xs"
        & !word == "yotsubayotsuba"
        & !word == "boards"
        & !word == "faq"
        & !word == "announcementcrypto"
        & !word == "bolsheviknatonazihippiepirateperepublicantask"
        & !word == "bypass"
        & !word == "capitalistanarchistblack"
        & !word == "flaggeographic"
        & !word == "huggerunited"
        & !word == "locationanarcho"
        & !word == "login"
        & !word == "nationalistconfederatecommunistcataloniademocrateuropeanfascistgadsdengayjihadikek
        & !word == "nationswhite"
        & !word == "refreshpost"
        & !word == "supremacistfileplease"
        & !word == "ztemplartree"
        & !word == "posters"
        & !word == "wpjizlog"
        & !word == "xxfbsv"
        & !word == "wsr"
        & !word == "thu"
        & !grepl("[^A-Za-z]", word))
```

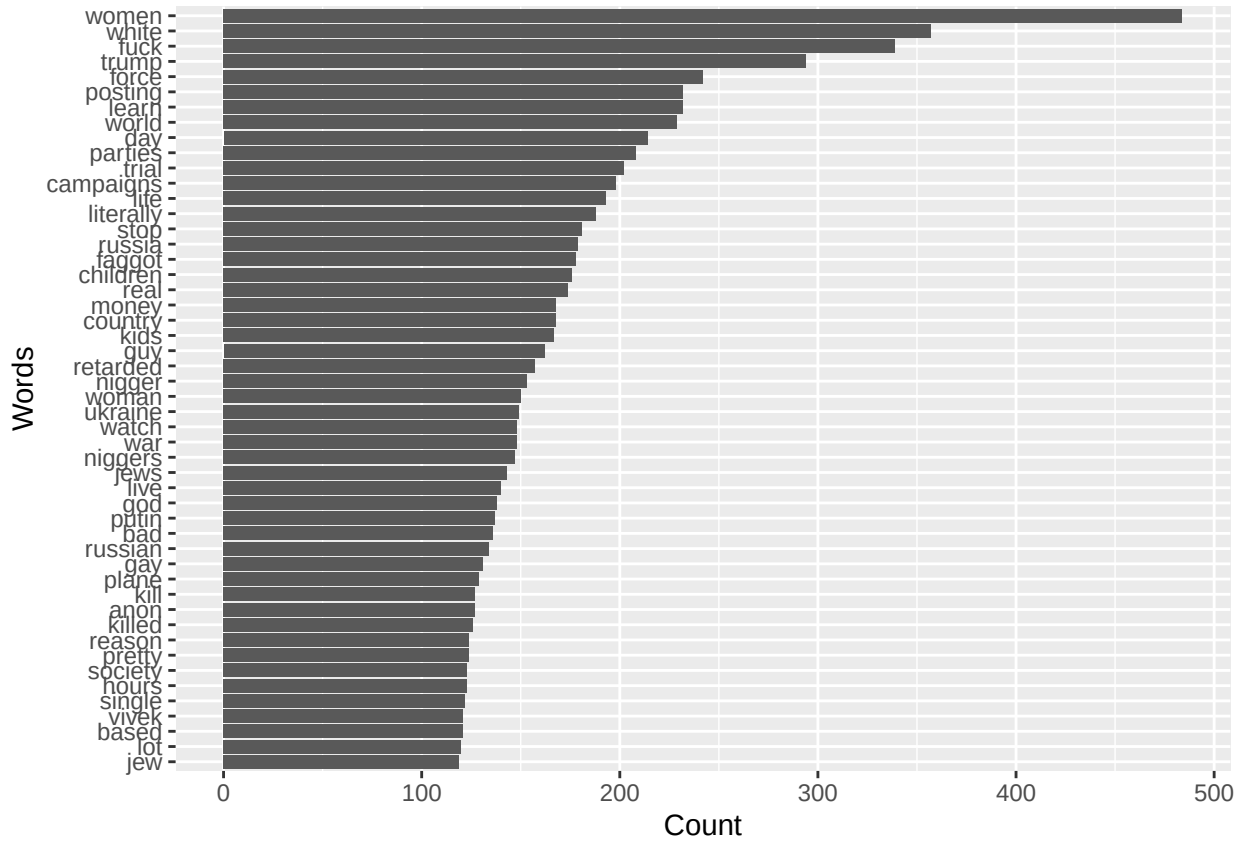
This code block below is sorting all of the words by frequency, and assigning it to a new data frame. Also, it prints the top 10 most frequent words.

```r
tidy_pol_fixed2 <- tidy_pol_fixed %>%
  count(word, sort = TRUE) %>%
  print(n = 10)
```

```
## # A tibble: 21,958 x 2
##    word        n
##    <chr>   <int>
##  1 women     484
##  2 white     357
##  3 fuck      339
##  4 trump     294
##  5 force     242
##  6 learn     232
##  7 posting   232
##  8 world     229
##  9 day       214
## 10 parties   208
## # i 21,948 more rows
```

Time to Visualize.

```r
tidy_pol_fixed2 %>%
  top_n(50) %>%
  mutate(word = reorder(word, n)) %>%
  ggplot(aes(word, n)) +
  geom_col() +
  xlab("Words") +
  ylab("Count") +
  coord_flip()
```




```
tidy_pol_fixed2 %>%
  with(wordcloud(word, n, max.words = 100, random.order = FALSE, rot.per = 0.0,
                 colors = brewer.pal(8, "Dark2")))
```

DON'T FORGET TO SAVE YOUR DATA TO A CSV. CHANGE THE "DATE" IN THE PATH BELOW. MAKE SURE TO ALSO CHANGE THE NAME EACH TIME YOU RUN THE CODE SO YOU DON'T OVERWRITE OLD DATA THAT YOU SAVED. LEAVE THIS PART COMMENTED OUT SO YOU DON'T ACCIDENTIALLY RUN IT.

write.csv(tidy_pol_fixed2, "~/Documents/Stats/4Chan Scraper/Aug-22-2023-1116h.csv", row.names=FALSE)