Project_Sentiment_Analysis#(BASA, LLANERA, TUARES)

BASA, LLANERA, TUARES

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```
library(tidyverse)
```

```
## -- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
## v dplyr     1.1.4     v readr     2.1.5
## v forcats   1.0.0     v stringr   1.5.1
## v ggplot2   3.5.1     v tibble    3.2.1
## v lubridate 1.9.4     v tidyr     1.3.1
## v purrr     1.0.2
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

```
library(lubridate)
library(ggplot2)
library(tidytext)
library(sentimentr)
```

Data Loading and Inspection

```
data <- read.csv("/cloud/project/Project_Sentiment_Analysis/tweetsDF.csv")

str(data)
```

```
## 'data.frame':    58086 obs. of  7 variables:
##  $ X               : int  1 2 3 4 5 6 7 8 9 10 ...
##  $ screenName      : chr  "whourj31" "nnainot" "febry_sri_M" "telehuntwatch" ...
##  $ text            : chr  "A soldier angry at the support fund consolation money for the bereaved fa
##  $ created         : chr  "2022-10-30 23:59:43" "2022-10-30 23:59:32" "2022-10-30 23:59:31" "2022-10
##  $ statusSource    : chr  "<a href=\"https://www.fs-poster.com/\" rel=\"nofollow\">FS_Poster_App</a>
##  $ Created_At_Round: chr  "2022-10-31 00:00:00" "2022-10-31 00:00:00" "2022-10-31 00:00:00" "2022-10
##  $ tweetSource     : chr  "others" "android" "android" "others" ...
```

```
summary(data)
```

```
##        X          screenName            text             created
##  Min.   :    1   Length:58086       Length:58086       Length:58086
##  1st Qu.:14522   Class :character   Class :character   Class :character
##  Median :29044   Mode  :character   Mode  :character   Mode  :character
##  Mean   :29044
##  3rd Qu.:43565
##  Max.   :58086
##  statusSource       Created_At_Round   tweetSource
##  Length:58086       Length:58086       Length:58086
```

```
##  Class :character   Class :character   Class :character
##  Mode  :character   Mode  :character   Mode  :character
##
##
##
```

```
head(data)
```

```
##   X    screenName
## 1 1      whourj31
## 2 2       nnainot
## 3 3   febry_sri_M
## 4 4 telehuntwatch
## 5 5    Typing0824
## 6 6   niccijsmith
##
## 1          A soldier angry at the support fund consolation money for the bereaved family of the Itaew
## 2                                                                                 Nah this Ita
## 3
## 4 TRANSLATION :\nSeoul residents lay flowers at a makeshift memorial near the site of the crush in I
## 5  The Itaewon stampede incident really caught me off guard. Makes me notice how important it is to
## 6  "What to do about my child? What to do about my child?" Park Ga-young's mother, Choi Seon-mi, sai
##               created
## 1 2022-10-30 23:59:43
## 2 2022-10-30 23:59:32
## 3 2022-10-30 23:59:31
## 4 2022-10-30 23:59:28
## 5 2022-10-30 23:59:20
## 6 2022-10-30 23:59:04
##                                                                    statusSource
## 1               <a href="https://www.fs-poster.com/" rel="nofollow">FS_Poster_App</a>
## 2 <a href="http://twitter.com/download/android" rel="nofollow">Twitter for Android</a>
## 3 <a href="http://twitter.com/download/android" rel="nofollow">Twitter for Android</a>
## 4                          <a href="https://ruprop.live" rel="nofollow">telehunt</a>
## 5 <a href="http://twitter.com/download/android" rel="nofollow">Twitter for Android</a>
## 6   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a>
##      Created_At_Round tweetSource
## 1 2022-10-31 00:00:00      others
## 2 2022-10-31 00:00:00     android
## 3 2022-10-31 00:00:00     android
## 4 2022-10-31 00:00:00      others
## 5 2022-10-31 00:00:00     android
## 6 2022-10-31 00:00:00      iphone
```

Data Cleaning

```
data <- data %>% distinct() %>% drop_na()
if (!"created" %in% colnames(data)) {
  stop("The dataset is missing a 'created' column. Please verify that the dataset includes a timestamp
}

data <- data %>% rename(datetime = created)

data <- data %>% mutate(datetime = ymd_hms(datetime))

data <- data %>%
```

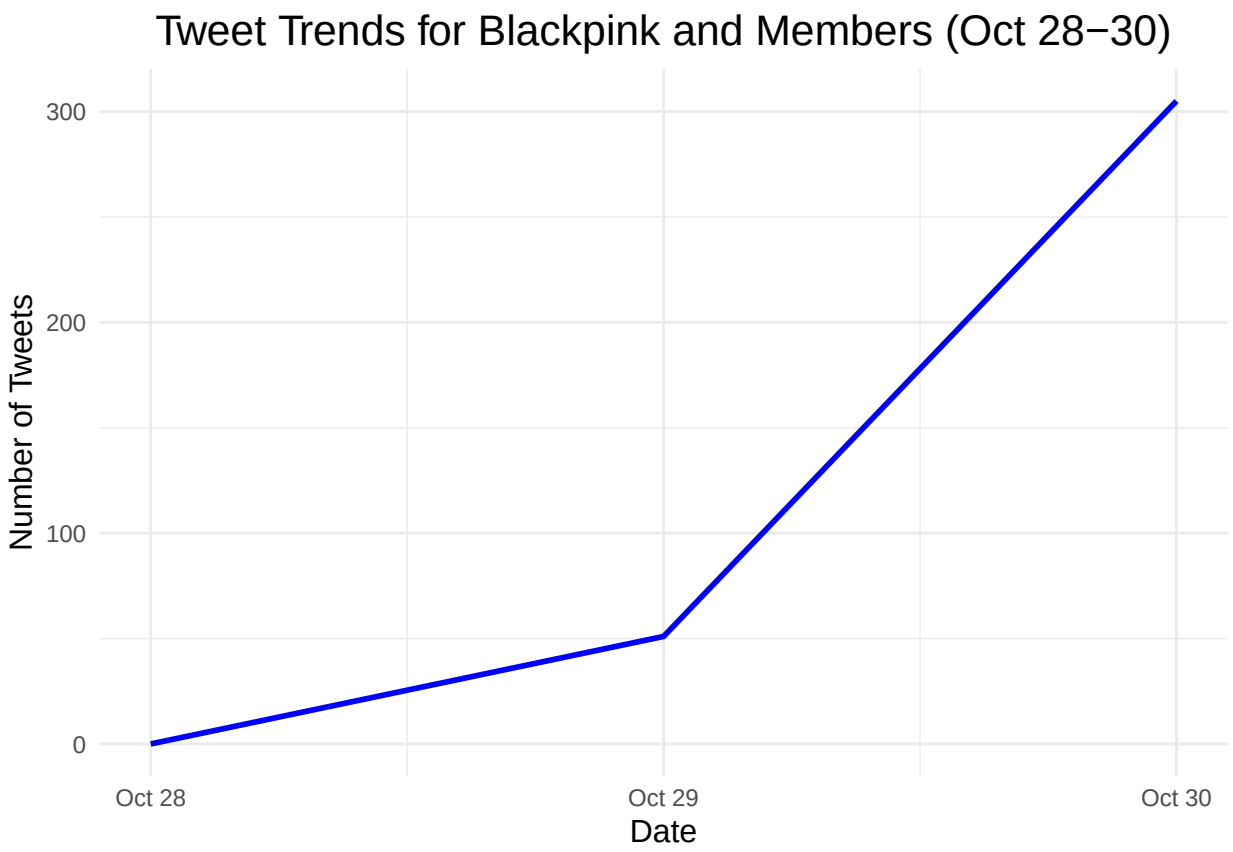
```
  mutate(text = str_remove_all(text, "http[s]?://\\S+|#\\w+|@\\w+|[^\\w\\s]"))

keywords <- c("Blackpink", "Rose", "Lisa", "Jennie", "Jisoo", "concert")
data_filtered <- data %>% filter(str_detect(tolower(text), paste(keywords, collapse = "|")))
```

Trend Analysis

```
# Restrict data to October 28-30, 2022
data_filtered <- data_filtered %>%
  filter(datetime >= as.POSIXct("2022-10-28 00:00:00") & datetime <= as.POSIXct("2022-10-30 23:59:59"))
# Count tweets over time
time_trend <- data_filtered %>%
  mutate(date = as.Date(datetime)) %>%
  group_by(date) %>%
  summarise(tweet_count = n())
# Ensure all dates in the range are included, even with zero counts
date_range <- seq(as.Date("2022-10-28"), as.Date("2022-10-30"), by = "day")
time_trend <- time_trend %>%
  complete(date = date_range, fill = list(tweet_count = 0))
# Plot tweet trends over time
ggplot(time_trend, aes(x = date, y = tweet_count)) +
  geom_line(color = "blue", size = 1) +
  labs(title = "Tweet Trends for Blackpink and Members (Oct 28-30)", x = "Date", y = "Number of Tweets"
  theme_minimal() +
  theme(plot.title = element_text(hjust = 0.5, size = 16), axis.title = element_text(size = 12))
```

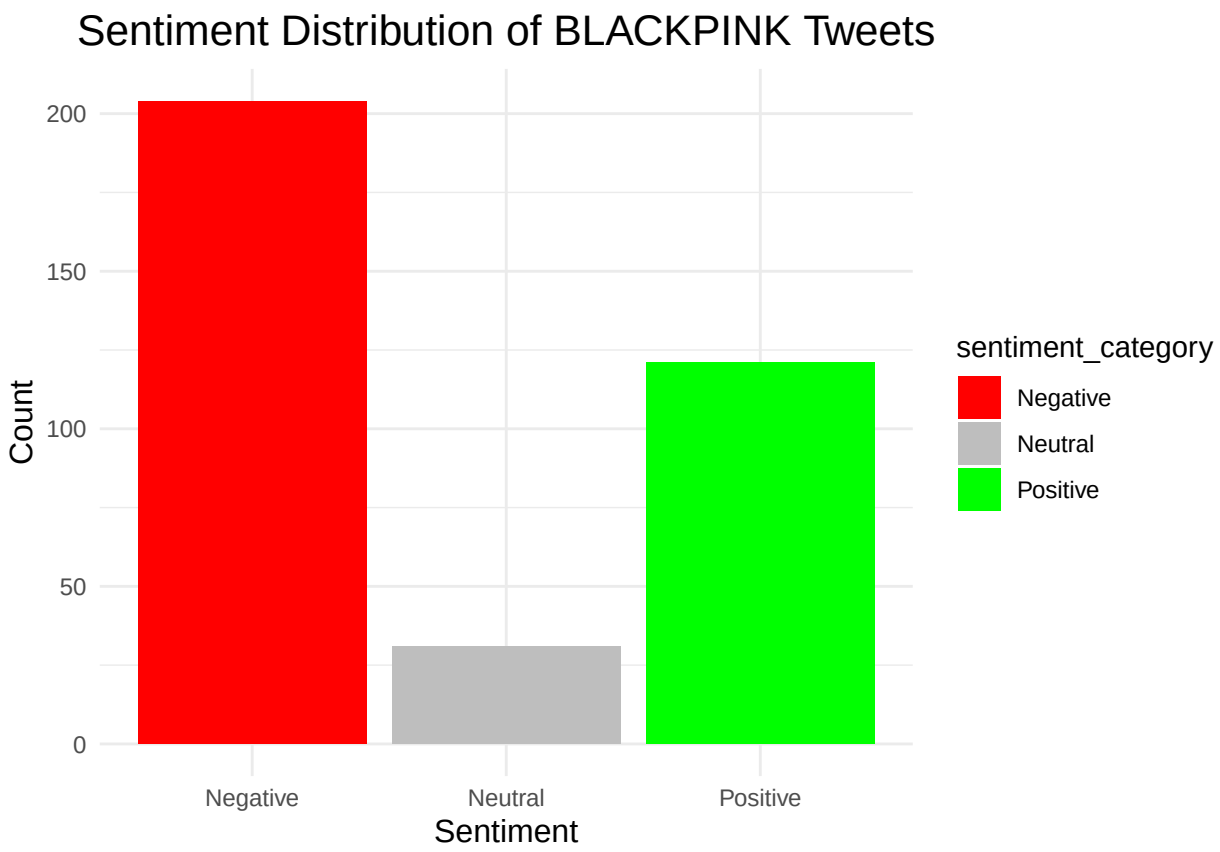
```
## Warning: Using `size` aesthetic for lines was deprecated in ggplot2 3.4.0.
## i Please use `linewidth` instead.
## This warning is displayed once every 8 hours.
## Call `lifecycle::last_lifecycle_warnings()` to see where this warning was
## generated.
```




```
# **Trend Analysis Insights:**
# The tweet activity mentioning BLACKPINK and its members between October 28 and October 30, 2022, show
# This surge in activity coincides with discussions about the Itaewon tragedy and BLACKPINK's decision
# The contrast in opinions likely heightened public interest, as the conversation became polarized betw
# This spike also highlights the influential role of social media, where high-profile events and contro
```

Sentiment Analysis

```
# Perform sentiment analysis on the filtered tweets
sentiment_scores <- sentiment_by(data_filtered$text)
data_filtered$sentiment <- sentiment_scores$ave_sentiment
# Categorize sentiment
data_filtered <- data_filtered %>%
  mutate(sentiment_category = case_when(
    sentiment > 0 ~ "Positive",
    sentiment < 0 ~ "Negative",
    TRUE ~ "Neutral"
  ))
# Sentiment Distribution
ggplot(data_filtered, aes(x = sentiment_category, fill = sentiment_category)) +
  geom_bar() +
  labs(title = "Sentiment Distribution of BLACKPINK Tweets", x = "Sentiment", y = "Count") +
  scale_fill_manual(values = c("Positive" = "green", "Neutral" = "gray", "Negative" = "red")) +
  theme_minimal() +
  theme(plot.title = element_text(hjust = 0.5, size = 16), axis.title = element_text(size = 12))
```




```r
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    sentiment > 0 ~ "Positive",
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    TRUE ~ "Neutral"
  ))
# Sentiment Distribution
ggplot(data_filtered, aes(x = sentiment_category, fill = sentiment_category)) +
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  labs(title = "Sentiment Distribution of BLACKPINK Tweets", x = "Sentiment", y = "Count") +
  scale_fill_manual(values = c("Positive" = "green", "Neutral" = "gray", "Negative" = "red")) +
  theme_minimal() +
  theme(plot.title = element_text(hjust = 0.5, size = 16), axis.title = element_text(size = 12))
```
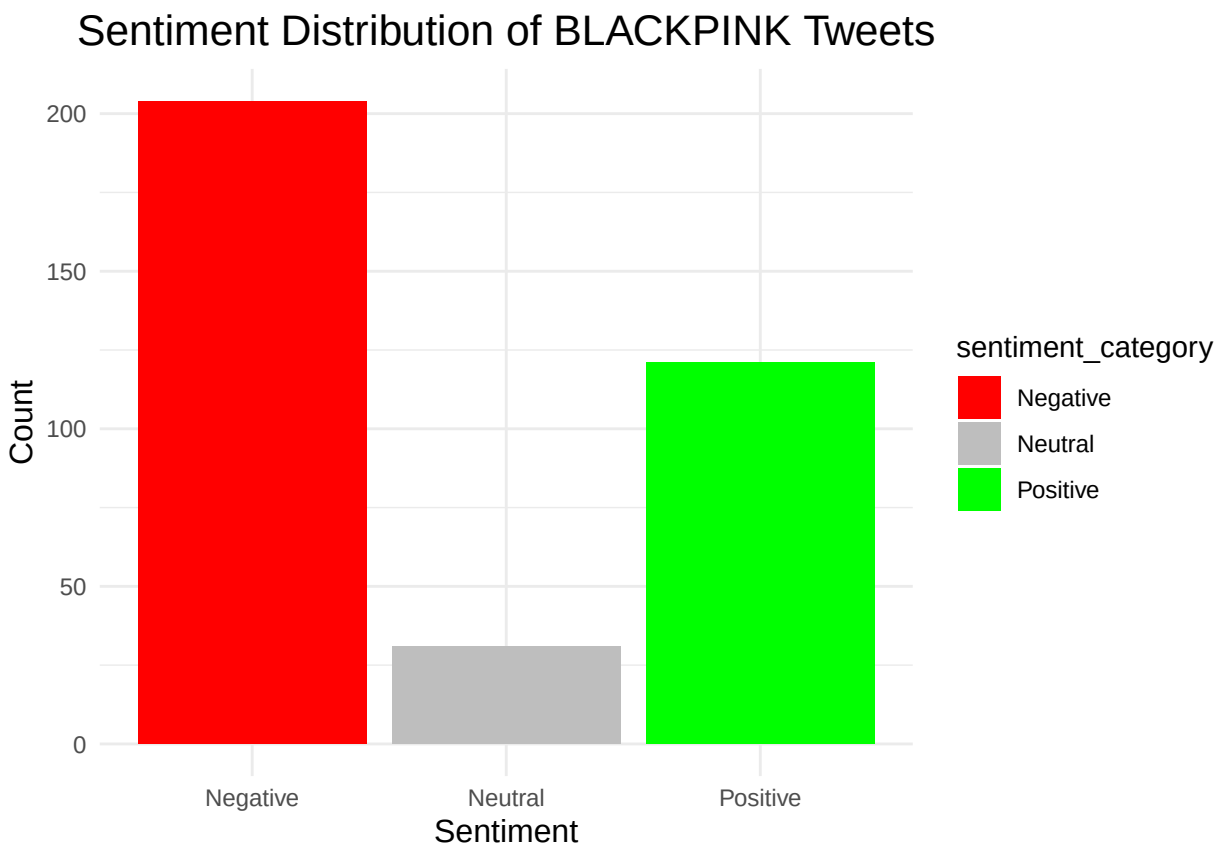
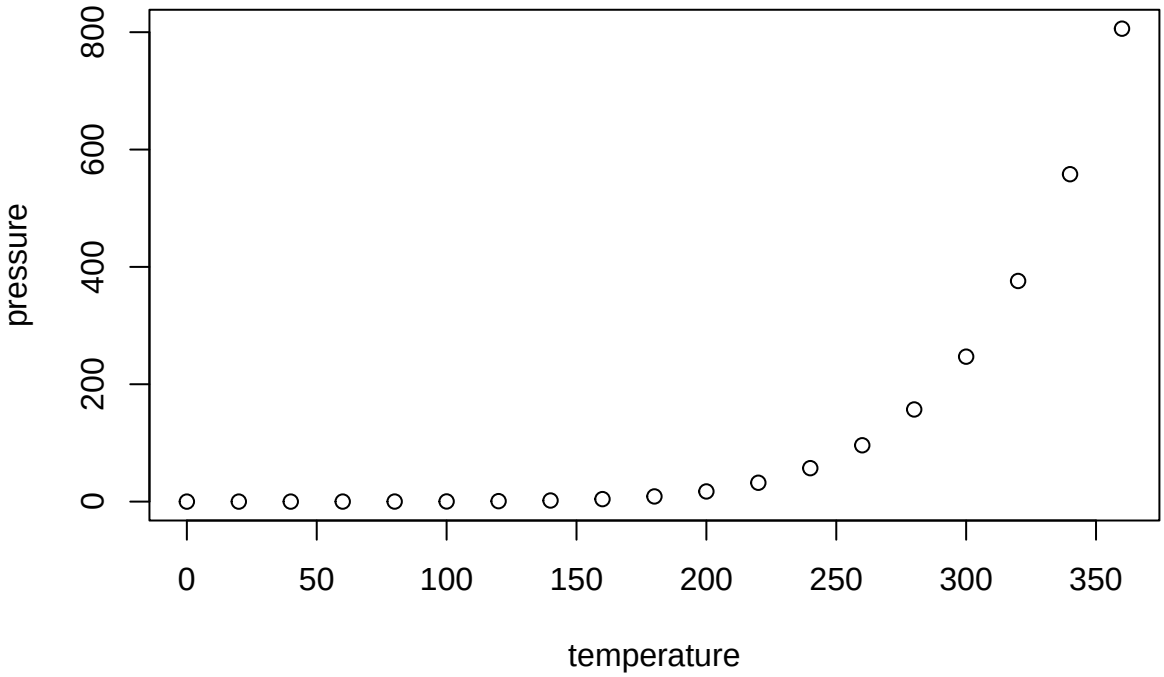




```
# **Sentiment Analysis Insights:**
# Sentiment analysis of the tweets reveals that negative sentiment was the most dominant during this pe
# A significant number of tweets expressed disapproval of BLACKPINK and their management for continuing
# Upon further examination, some of the negative sentiment appeared to be driven by online trolls ampli
# While positive sentiments were less common, they reflected fan support for BLACKPINK and sympathy for
# Neutral sentiment was the least common, as most tweets conveyed strong emotional responses regarding
```



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.