# Assignment 3

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```
# read in data
text <- read.csv("TextMessages.csv")

# install packages
library(ggplot2)
# install.packages("tidyr")
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
```

## Visualization 1

## Visualization 2

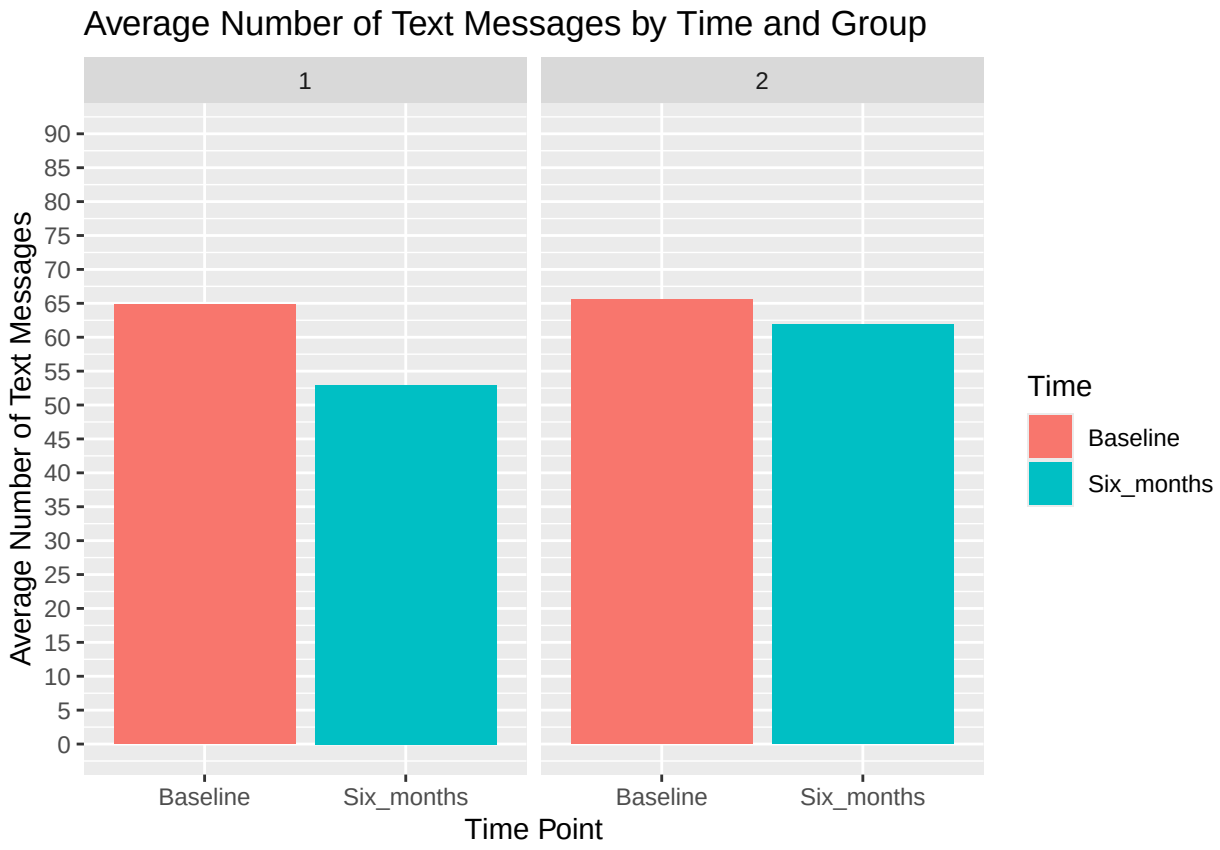
```
#  Create stratified bar charts of text messages Group and Time (Hint: Faceted Bar Charts).

# reshape data from wide to long format
text_long <- text %>% pivot_longer(cols = c(Baseline, Six_months), names_to = "Time", values_to = "Textl

# make the Time variable ordered for better plotting
text_long$Time <- factor(text_long$Time, levels = c("Baseline", "Six_months"))

# create stratified bar charts of text messages Group and Time
barchart <- ggplot(text_long, aes(x = Time, y = TextMessages, fill = Time)) +
    geom_bar(stat = "summary", fun = "mean", position = "dodge") +
    facet_wrap(~ Group) +
    labs(title = "Average Number of Text Messages by Time and Group", x = "Time Point", y = "Average Nu
    scale_y_continuous(limits = c(0,90), breaks = seq(from = 0, to = 90, by = 5))

# view bar chart
barchart
```




## Summary Statistics

```
# compute summary statistics by Group and Time
summary_stats <- text_long %>%
  group_by(Group, Time) %>%
  summarise(
    n = n(),
    mean = mean(TextMessages),
    sd = sd(TextMessages),
    min = min(TextMessages),
    max = max(TextMessages))
```

```
## `summarise()` has grouped output by 'Group'. You can override using the
## `.groups` argument.
```

```
# view results
print(summary_stats)
```

```
## # A tibble: 4 x 7
## # Groups:   Group [2]
##   Group Time           n  mean    sd   min   max
##   <int> <fct>      <int> <dbl> <dbl> <int> <int>
## 1     1 Baseline      25  64.8 10.7     47    85
## 2     1 Six_months    25  53.0 16.3      9    78
## 3     2 Baseline      25  65.6 10.8     46    89
## 4     2 Six_months    25  61.8  9.41    46    79
```