Week 4 Assignment

Jiaxin Zheng

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```
library(readr)
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(ggplot2)
```

```
#read the CSV file
data <- read_csv("https://raw.githubusercontent.com/Jennyjjxxzz/Data607_Week4Assignment-/refs/heads/mai
```

```
## New names:
## Rows: 5 Columns: 7
## -- Column specification
## -------------------------------------------------------- Delimiter: "," chr
## (2): ...1, ...2 dbl (5): Los Angeles, Phoenix, San Diego, San Francisco,
## Seattle
## i Use `spec()` to retrieve the full column specification for this data. i
## Specify the column types or set `show_col_types = FALSE` to quiet this message.
## * `` -> `...1`
## * `` -> `...2`
```

```
#rename the columns
colnames(data) <- c("Airline", "Status", "Los Angeles", "Phoenix", "San Diego", "San Francisco", "Seattl

#try to fill in the missing values in column 1 "Airline"
data <- data %>%
  fill(Airline, .direction = "down")

#remove one row
data <- data[-c(3),]
```

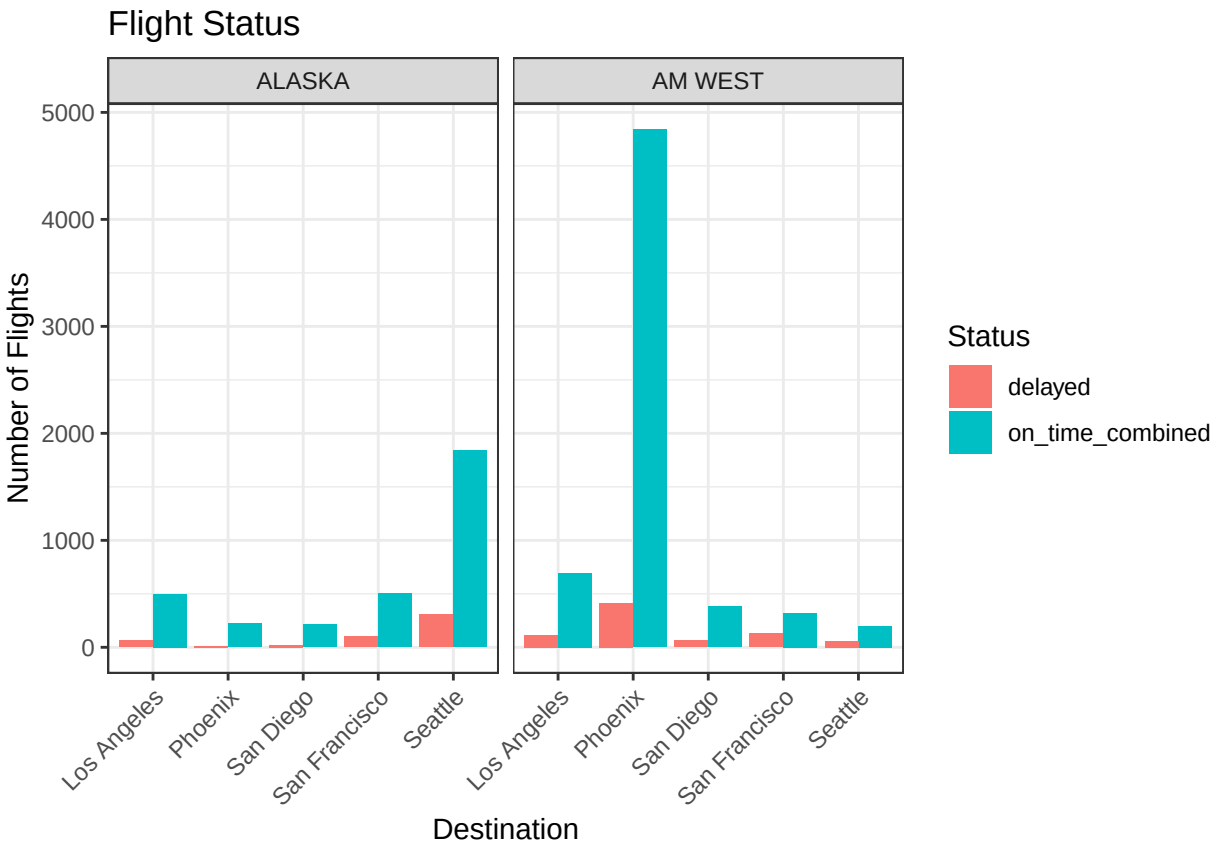
```r
data_longer <- data |>
  pivot_longer(cols = 3:7,
               names_to = "Destination",
               values_to = "Count",
               values_drop_na = TRUE)
```

```r
data_wider <- data_longer |>
  pivot_wider(names_from = Status,
              values_from = Count)
colnames(data_wider) <- c("Airline", "Destination", "On_Time_1", "delayed", "On_Time_2")
```

```r
#combine the "on time" column
data_wider <- data_wider |>
  mutate(on_time_combined = coalesce(On_Time_1, On_Time_2))
```

```r
data_plot <- data_wider |>
  select(Airline, Destination, on_time_combined, delayed) |>
  pivot_longer(cols = c(on_time_combined, delayed),
               names_to = "Status",
               values_to = "Count")

ggplot(data_plot, aes(x = Destination, y = Count, fill = Status)) +
  geom_bar(stat = "identity", position = "dodge") +
  facet_wrap(~ Airline) +
  labs(title = "Flight Status",
       x = "Destination",
       y = "Number of Flights",
       fill = "Status") +
  theme_bw()+
  theme(axis.text.x = element_text(angle = 45, hjust = 1))
```


Flight Status
ALASKA
AM WEST
Number of Flights
5000
4000
3000
2000
1000
0
Los Angeles
Phoenix
San Diego
San Francisco
Seattle
Destination
Status
delayed
on_time_combined