

# How I Spend My Time

SAT 231: Calendar Query

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## YOUR REPORT HEADING

```
# Data import and preliminary wrangling
calendar_data <- "ktdata3.ics" %>%
  # Use ical package to import into R
  ical_parse_df() %>%
  # Convert to "tibble" data frame format
  as_tibble() %>%
  mutate(
    # Use lubridate package to wrangle dates and times
    start_datetime = with_tz(start, tzone = "America/New_York"),
    end_datetime = with_tz(end, tzone = "America/New_York"),
    duration_min = difftime(end_datetime, start_datetime, units = "mins"),
    duration_hours = duration_min/60,
    # duration_min = end_datetime - start_datetime,
    date = floor_date(start_datetime, unit = "day"),
    # Convert calendar entry to all lowercase and rename
    activity = tolower(summary),
    overall = fct_collapse(factor(summary), #new overall variables for work/class
      class = c("ASLC_class", "ASLC_study",
        "ENST_class", "ENST_OH", "ENST_study",
        "NS_class", "NS_study", "STAT_class",
        "STAT_OH", "STAT_SDS", "STAT_study"),
      work = c("work_divtern", "work_meeting", "work_NISA")
    ),
    #making duration into a numeric
    time = as.numeric(duration_min),
    time_hrs = as.numeric(duration_hours))

#data wrangling for visualization 1
class_data <- calendar_data %>%
  #filter our overall variable by class only
  filter(overall == "class") %>%
  #separating class and activity
  separate(summary, c("class", "activity"), "_", remove = FALSE) %>%
```

```

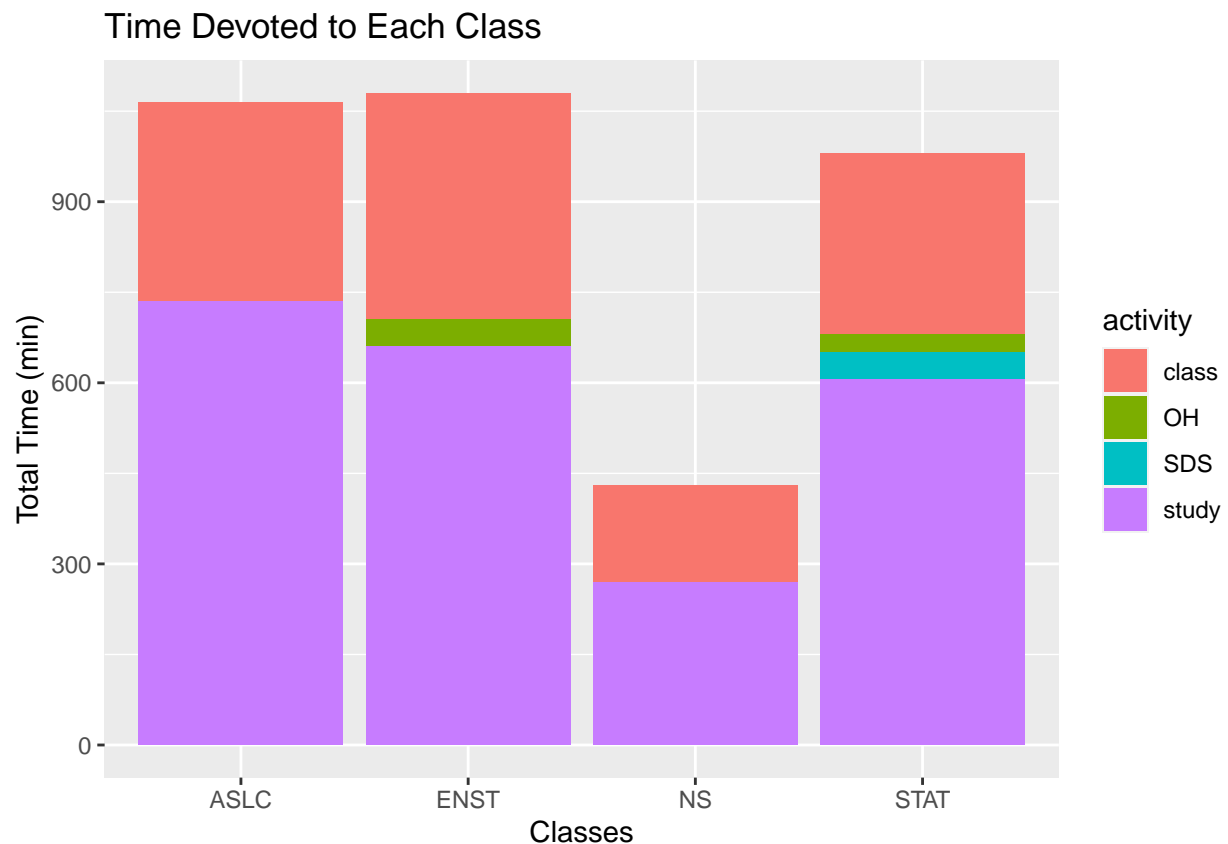
group_by(class, activity) %>%
  summarize(overall_time = sum(time))

# Compute total duration of time for each day & activity
activities <- calendar_data %>%
  group_by(date, overall) %>%
  summarize(duration_min = sum(duration_min))

#Code for data visualization #1
# Be sure to provide meaningful title and axes labels

ggplot(data = class_data, aes(fill = activity, y = overall_time, x = class)) +
  geom_bar(position = "stack", stat = "identity") +
  labs(title = "Time Devoted to Each Class",
       x = "Classes",
       y = "Total Time (min)")

```



```

# Code for data visualization #2
# Be sure to provide meaningful title and axes labels
ggplot(calendar_data, aes(x = date, y = time,
                          color = overall)) +
  geom_line() +
  labs(title = "Time Series Graph Over 2 Weeks",
       subtitle = "Amount of Time Devote to Each Task Each Day",

```

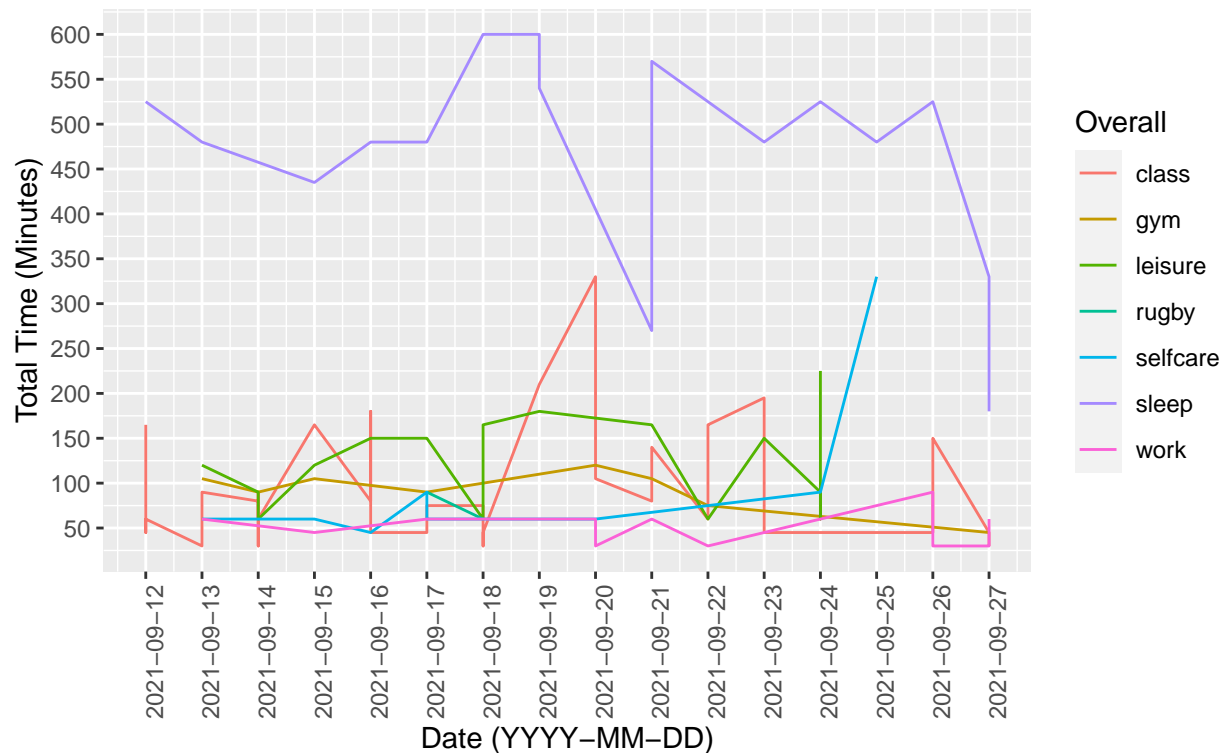
```

y = "Total Time (Minutes)",
x = "Date (YYYY-MM-DD)",
color = "Overall", lty = "Overall") +
#Change date breaks
scale_x_datetime(date_breaks = "1 days") +
#increase y labels (add 10 breaks)
scale_y_continuous(breaks = scales::pretty_breaks(n = 10)) +
theme(axis.text.x = element_text(angle = 90, hjust = 1, size = rel(1)))

```

## Time Series Graph Over 2 Weeks

Amount of Time Devote to Each Task Each Day



```

# Code for table
table <- calendar_data %>%
  group_by(overall) %>%
  rename(Category = overall) %>%
  summarize(
    N = n(),
    Average = mean(time_hrs),
    Min = min(time_hrs),
    Max = max(time_hrs),
    Total = sum(time_hrs)
    # class_avg = mean(class)
  ) %>%
  arrange(desc(Average)) %>%
  kable(booktabs = TRUE, digits = 1) %>%
  kable_styling()

```

| Category | N  | Average | Min | Max  | Total |
|----------|----|---------|-----|------|-------|
| sleep    | 16 | 7.8     | 3.0 | 10.0 | 125.0 |
| leisure  | 16 | 2.0     | 1.0 | 3.8  | 32.2  |
| class    | 37 | 1.6     | 0.5 | 5.5  | 59.2  |
| selfcare | 9  | 1.6     | 0.8 | 5.5  | 14.2  |
| gym      | 8  | 1.5     | 0.8 | 2.0  | 12.2  |
| rugby    | 2  | 1.2     | 1.0 | 1.5  | 2.5   |
| work     | 12 | 0.8     | 0.5 | 1.5  | 10.0  |

table

## YOUR REFLECTION HEADING