Date_Map_HW_Freddie_Ben.rmd

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Frederick's Work

Load libraries

```
library(lubridate)
```

```
## Warning: package 'lubridate' was built under R version 4.4.1
```

```
##
## Attaching package: 'lubridate'
```

```
## The following objects are masked from 'package:base':
##
##     date, intersect, setdiff, union
```

```
library(tibble)
```

```
## Warning: package 'tibble' was built under R version 4.4.1
```

```
library(purrr)
```

```
## Warning: package 'purrr' was built under R version 4.4.1
```

1) Generate a sequence of dates from January 1, 2015 to December 31, 2025, spaced by every two months. Extract the year, quarter, and ISO week number for each date.

```
date_seq <- seq(ymd("2015-01-01"), ymd("2025-12-31"), by = "2 months")

# Extract year, quarter, and ISO week
date_info <- tibble(
  date = date_seq,
  year = year(date_seq),
```

```
  quarter = quarter(date_seq),
  iso_week = isoweek(date_seq)
)

# Print the first few rows
print(head(date_info))
```

```
## # A tibble: 6 x 4
##   date        year quarter iso_week
##   <date>     <dbl>   <int>    <dbl>
## 1 2015-01-01  2015       1        1
## 2 2015-03-01  2015       1        9
## 3 2015-05-01  2015       2       18
## 4 2015-07-01  2015       3       27
## 5 2015-09-01  2015       3       36
## 6 2015-11-01  2015       4       44
```

2) Given the following dates, compute the difference in months and weeks between each consecutive pair.

sample_dates <- c("2018-03-15", "2020-07-20", "2023-01-10", "2025-09-05")

```
# Convert sample_dates to Date format
sample_dates <- ymd(c("2018-03-15", "2020-07-20", "2023-01-10", "2025-09-05"))

# Compute differences in months and weeks
month_diffs <- diff(sample_dates) / dmonths(1)  # Convert to months
week_diffs <- diff(sample_dates) / dweeks(1)    # Convert to weeks

# Combine results into a tibble
date_diffs <- tibble(
  start_date = sample_dates[-length(sample_dates)],
  end_date = sample_dates[-1],
  months_diff = round(month_diffs, 2),
  weeks_diff = round(week_diffs, 2)
)

# Print output
print(date_diffs)
```

```
## # A tibble: 3 x 4
##   start_date end_date   months_diff weeks_diff
##   <date>     <date>           <dbl>      <dbl>
## 1 2018-03-15 2020-07-20        28.2       123.
## 2 2020-07-20 2023-01-10        29.7       129.
## 3 2023-01-10 2025-09-05        31.8       138.
```

Ben's Work 3)

```r
#create df
num_lists <- list(c(4, 16, 25, 36, 49), c(2.3, 5.7, 8.1, 11.4), c(10, 20, 30, 40, 50))

#compute mean, median, and mode
map_dbl(num_lists, mean)
```

```
## [1] 26.000  6.875 30.000
```

```r
map_dbl(num_lists, median)
```

```
## [1] 25.0  6.9 30.0
```

```r
map_dbl(num_lists, sd)
```

```
## [1] 17.42125  3.84220 15.81139
```

4)

```r
# create list of mixed date formats
date_strings <- list("2023-06-10", "2022/12/25", "15-Aug-2021", "InvalidDate")

#possibly avoids invalid errors
date_strings_parced <- possibly(function(date_strings) {
  date <- mdy(date_strings) %>% as.Date()#mdy
  if (is.na(date)) date <- ymd(date_strings) %>% as.Date()#ymd
  if (is.na(date)) date <- dmy(date_strings) %>% as.Date()#dmy
  format(date, "%B")
}, NA)#returns na on failure

#print names
map(date_strings, date_strings_parced)
```

```
## Warning: All formats failed to parse. No formats found.
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```

```
## [[1]]
## [1] "June"
##
## [[2]]
## [1] "December"
##
## [[3]]
## [1] "August"
##
## [[4]]
## [1] NA
```