##

Data transformation for Insights

We set the working directory

```
setwd('D:/Group Folder/SEQUENTIAL FILES')
```

Create a data frame by loading the cleaned Membership file

```
mem_cleaned <- read.csv("2 Data Cleaned Files/membership_cleaned.csv")
```

Create a new column to check if a membership purchase is complementary or Life or Annual membership. **str_detect** function checks if a pattern is present in a column.

```
mem_cleaned <- mem_cleaned %>%
    mutate(mem_type = ifelse( str_detect(str_to_lower(MEMBERSHIP_LEVEL),
"comp"), "Comp",
                        ifelse( str_detect(str_to_lower(MEMBERSHIP_LEVEL),
"life"),"Life"
                                                ,"Annual")))
```

Get IDs of Alumni who tried complementary membership.

```
comp_ids <- mem_cleaned %>%
            filter(mem_type == "Comp") %>%
            select(ID_DEMO)

comp_ids <- unique(comp_ids$ID_DEMO)
```

Identify IDs of Alumni who tried Annual membership at least once

```
annual_ids_atleast_once <- mem_cleaned %>%
                           filter(mem_type == "Annual") %>%
                           select(ID_DEMO)

annual_ids_atleast_once <- unique(annual_ids_atleast_once$ID_DEMO)
```

Load Individual info raw file to identify who are current members.

```
ind_info <- read.csv("1 Data Initial Files/individual_info.csv")
```

Identify IDs of Alumni who are current Life members

```
current_life <- ind_info %>% filter( (MEMBERSHIP_TYPE_CODE == "L") &
                                       MEMBERSHIP_STATUS_CODE == "C")

current_life <- unique(current_life$ID_DEMO)
```

Identify IDs of Alumni who are Annual Life members

```
current_annual <- ind_info %>% filter( (MEMBERSHIP_TYPE_CODE == "A") &
                                         MEMBERSHIP_STATUS_CODE == "C")
current_annual <- unique(current_annual$ID_DEMO)
```

Insights (Alumni groups based on membership status)

Total Alumni including Family members and Alumni of all campuses = 617372. **length** function outputs the number of IDs present in the variable.

```
length(ind_info$ID_DEMO)
```

Alumni who tried Annual membership atleast once = 152552

```
length(annual_ids_atleast_once)
```

Alumni who are Life members but did not try Annual membership at least once = 7420. **setdiff** function identifies IDs present in **current_life** but not in **annual_ids_atleast_once**

```
length(setdiff(current_life,annual_ids_atleast_once ))
```

Alumni who have not taken Life or Annual membership = 457400. (complementary members who did not buy any membership are counted as Non members)

```
617372 - 152552 - 7420 = 457400
```

Alumni who tried Annual membership at least once and became Life member = 12894. **intersect** function identifies IDs that are common in **current_life** and **annual_ids_atleast_once**

```
length(intersect(current_life,annual_ids_atleast_once ))
```

Alumni who tried Annual membership at least once and are current Annual member = 13585

```
length(intersect(current_annual,annual_ids_atleast_once ))
```

Alumni who tried Annual membership atleast once but discontinued membership later on = 126073

```
152552 - 13585 - 12894 = 126073
```

Insights (Life members past behavior)

We wanted to analyze Life members past behavior to check if they tried Annual membership before purchasing Life membership.

Total current Life members = 20314

```
length(current_life)
```

Alumni who did not try Annual membership but bought Life membership = 7420. complementary members who did not buy any membership are counted as Non members.

```
length(setdiff(current_life,annual_ids_atleast_once ))
```

Alumni who tried Annual membership at least once and became Life member = 12894. This means that 12894 / 20314 = 63.4% of Life members tried Annual membership before purchasing Life membership.

```
length(intersect(current_life,annual_ids_atleast_once ))
```