A3_JOEL_SAGMAN

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Project Info

Github Username: JoelSagman

Github Link: https://github.com/JoelSagman/Assignment-3

Load the FallopiaData.csv

```
library(dplyr)
FaData<-read.csv("InputData/FallopiaData.csv")
```

Data wrangling

a. Remove rows with 'Total' biomass < 60
b. Reorder the columns so that they are in the order: 'Total', 'Taxon', 'Scenario', 'Nutrients', and remove the other columns
c. Make a new column TotalG, which converts the 'Total' column from mg to grams AND replace Total with TotalG, and add it to the dataset.

```
WrData <- FaData %>%
  filter(Total < 60) %>%
  relocate(Total, Taxon, Scenario, Nutrients) %>%
  select(Total:Nutrients) %>%
  mutate(TotalG = Total * 1000,
         Total=NULL, .before=1)
```

Custom Fuction

Write a custom function that will take two inputs from the user: 1. a vector of data to process (e.g. column from a data.frame object) and 2. a string that defines what calculation to perform.

1. if string #2 is "Average" then calculate the average value for the column named in vector #1
2. if string #2 is "Sum" then calculate the sum of values for the column named in vector #1
3. if string #2 is "Observations" then count the number of observed values for the column named in vector #1
4. if string #2 is anything else, then output an error to the user

```
MyFunction<-function(WrangData,var1=0,var2="string"){
  if(var2=="Average"){
    (Average=mean(var1))
    return("Average"= Average)
  }
  if(var2=="Sum"){
    (Sum=sum(var1))
    return("Sum"= Sum)
  }
  if(var2=="Observations"){
    (Observations<-length(var1))
    return(Observations)
  }
  if(var2 != ""){
    return(print("error in user input"))
  }
}
```

Custom funtion in action

a. Write some R code that uses your function to count the total number of observations in the 'Taxon' column.
b. Write some R code that uses your function to calculate the average TotalG for each of the two Nutrient concentrations.

```
(TotalTaxon<-MyFunction(var1=WrData$Taxon,var2="Observations"))
```

```
## [1] 78
```

```
(TotalG<-MyFunction(var1=WrData$TotalG,var2="Average"))
```

```
## [1] 50548.97
```

Writing new wrangled data file to output folder

```
write.csv(WrData, "./Output/WrangledData.csv", row.names=F)
```