weatherData API

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Git Hub link : https://github.com/jba17/weatherDataAPI

What is weatherData API ?

- This functions that help in fetching weather data from websites
- The main purpose of this function is to perform weather Analysis , but do not wish to do data scraping
- Given a location and a date range, these functions help fetch weather data (temperature, pressure etc.) for any weather related analysis.
- This particular API gets the data from

  https://www.wunderground.com/

To install the development version of weatherData from github, use the **devtools** package.

getWeatherForYear() Function

- This function helps to compare the daily temperature differences for two cities. In this example, we get one year's worth of data for two cities, and plot the daily differences.

How to get started ?

- The latest version of weatherData is on Github. Install and load the packages as below

```
1  install.packages("devtools")
2  library("devtools")
3  install_github("weatherData", "Ram-N")
4
```

```
1  library(weatherData)
2  library(ggplot2)
3
```

Example

```r
city1 <- "DFW"

city2 <- "NYC"

df1 <- getWeatherForYear(city1, 2016)

df2 <- getWeatherForYear(city2, 2016)

df1
df2

getDailyDifferences <- function(df1, df2){
  Delta_Means <- df1$Mean_TemperatureF - df2$Mean_TemperatureF
  Delta_Max <- df1$Max_TemperatureF - df2$Max_TemperatureF
  Delta_Min <- df1$Min_TemperatureF - df2$Min_TemperatureF

  diff_df <- data.frame(Date=df1$Date, Delta_Means, Delta_Max, Delta_Min)
  return(diff_df)
}

differences<- getDailyDifferences(df1, df2)
```

```
> differences
         Date Delta_Means Delta_Max Delta_Min
1  2016-01-01           6         7         5
2  2016-01-02           9        11         6
3  2016-01-03           9        15         2
4  2016-01-04          18        18        18
5  2016-01-05          20        18        21
6  2016-01-06          13         9        17
7  2016-01-07          17        18        17
8  2016-01-08          12        12        12
9  2016-01-09          -2         0        -4
10 2016-01-10         -14       -16       -12
11 2016-01-11           8        10         5
12 2016-01-12          12        19         6
```

Plot Differences

```
plotDifferences <- function (differences, city1, city2) {
  library(reshape2)
  m.diff <- melt(differences, id.vars=c("Date"))
  p <- ggplot(m.diff, aes(x=Date, y=value)) + geom_point(aes(color=variable)) +
    facet_grid(variable ~ .) +geom_hline(yintercept=0)
  p <- p + labs(title=paste0("Daily Temperature Differences: ", city1, " minus ",city2))
  print(p)
}

plotDifferences(differences, city1, city2)
```