HW4

Louise Lai

August 13, 2018

Edge Case Implementation Choices:

- When a number/roman numeral is in the last position, delete it
- When there's only one name (i.e. no last name), use it as both the first and last name

Handles:

- All explicit specifications from homework
- 1st, 2nd, 3rd, 4th, 1ST, 2ND, 3RD, 4TH, 200000th etc.
- NAMES IN ALL CAPS

Fails when:

- When last name is similar to a roman numeral, e.g. "Louise Ying She LAI". The program intprets the last name as a roman numeral and deletes it.
- When the name contains a number, but the number is not in the last position e.g. "Victoria 2nd Smith". The program does not properly locate number. Instead, it just deletes the last word.

```
nameChanger <- function(name){

  nameSplit <-  unlist(strsplit(name, "\\s+")) # split with at least one space
  # 1) Non-conforming inputs

   # case: name too long
  if(length(nameSplit) > 2){
    message("input non-conforming! (name > 2)")
  }

   # case: numbers and/or roman numerals
  edgeCaseRegex <- "(^\\d+[(st)|(nd)|(rd)|(th)|(ST)|(ND)|(RD)|(TH)]*$)|(XC|XL|L?X{0,3})(IX|IV|V?I{1,3})$"
  if(sum(!is.na(str_extract(nameSplit, edgeCaseRegex))) > 0){
    # delete the word. Only works if number is at the end, and there is one.
    nameSplit <- nameSplit[-length(nameSplit)]
    message("input non-conforming! (numbers/roman numerals)")
  }

  # 2) Charts
  firstChart <- unlist(strsplit("Stinky Lumpy Buttercup Gidget Crusty Greasy Fluffy Cheeseball Chim.Chim
  secondChart <- unlist(strsplit("Diaper Toilet Giggle Bubble Girdle Barf Lizard Waffle Cootie Monkey P
  thirdChart <- unlist(strsplit("head mouth face nose tush breath pants shorts lips honker butt brain t

  # 3) Create Dictionary

  # get names
  firstName <- tolower(nameSplit[1])
```

```
  lastName <- tolower(nameSplit[length(nameSplit)])

  # get letters as values
  firstLetter <- str_match(firstName, "[a-z]")
  secondLetter <- str_match(lastName, "[a-z]")
  thirdLetter <- str_match(stringi::stri_reverse(lastName), "[a-z]")

  # this error should never happen, but just in case truly weird input occurs
  if(is.na(firstLetter) | is.na(secondLetter) | is.na(thirdLetter)){
    message("input non-conforming! Super weird! Aargh!\n")
  }

  # assign keys
  names(firstChart) <- letters[1:26]
  names(secondChart) <- letters[1:26]
  names(thirdChart) <- letters[1:26]

  # 4) Match and Return
  print(paste(name, " -> ", firstName, lastName)) # previous
  print(paste(firstChart[firstLetter], paste(secondChart[secondLetter], thirdChart[thirdLetter], sep="")
  print("- - - - - - - - -") # purely aesthetic, for output
}

names <- c("Louise Lai", "Louise Ying She Lai", "Paul Intrevado", "David Uminsky", "Terence Parr", "Jeff
           "paul intrevado", "Intrevado, Paul", "Intrevad0 Paul", "Queen Elizabeth II",
           "Queen Elizabeth 2nd", "Queen Elizabeth 20000TH", "John Paul Euclid Rumpel", "britishDudeTha

sapply(c("Louise Lai", "Louise Ying She Lai", "Paul Intrevado", "David Uminsky", "Terence Parr", "Jeff
           "paul intrevado", "Intrevado, Paul", "Intrevad0 Paul", "Queen Elizabeth II",
           "Queen Elizabeth 2nd", "Queen Elizabeth 20000TH", "John Paul Euclid Rumpel", "britishDudeTha
```

```
## [1] "Louise Lai  ->  louise lai"
## [1] "Booger Liverlips"
## [1] "- - - - - - - - -"
```

```
## input non-conforming! (name > 2)
```

```
## [1] "Louise Ying She Lai  ->  louise lai"
## [1] "Booger Liverlips"
## [1] "- - - - - - - - -"
## [1] "Paul Intrevado  ->  paul intrevado"
## [1] "Doofus Cootiehiney"
## [1] "- - - - - - - - -"
## [1] "David Uminsky  ->  david uminsky"
## [1] "Gidget Chickenbrains"
## [1] "- - - - - - - - -"
## [1] "Terence Parr  ->  terence parr"
## [1] "Falafel Hamsterbuns"
## [1] "- - - - - - - - -"
## [1] "Jeff Hamrick  ->  jeff hamrick"
## [1] "Poopsie Wafflebutt"
## [1] "- - - - - - - - -"
## [1] "paul intrevado  ->  paul intrevado"
## [1] "Doofus Cootiehiney"
## [1] "- - - - - - - - -"
```

```
## [1] "Intrevado, Paul  ->  intrevado, paul"
## [1] "Chim.Chim Hamsterbrain"
## [1] "- - - - - - - -"
## [1] "Intrevad0 Paul  ->  intrevad0 paul"
## [1] "Chim.Chim Hamsterbrain"
## [1] "- - - - - - - -"

## input non-conforming! (name > 2)

## input non-conforming! (numbers/roman numerals)

## [1] "Queen Elizabeth II  ->  queen elizabeth"
## [1] "Slimy Girdleshorts"
## [1] "- - - - - - - -"

## input non-conforming! (name > 2)
## input non-conforming! (numbers/roman numerals)

## [1] "Queen Elizabeth 2nd  ->  queen elizabeth"
## [1] "Slimy Girdleshorts"
## [1] "- - - - - - - -"

## input non-conforming! (name > 2)
## input non-conforming! (numbers/roman numerals)

## [1] "Queen Elizabeth 20000TH  ->  queen elizabeth"
## [1] "Slimy Girdleshorts"
## [1] "- - - - - - - -"

## input non-conforming! (name > 2)

## [1] "John Paul Euclid Rumpel  ->  john rumpel"
## [1] "Poopsie Gizzardbrain"
## [1] "- - - - - - - -"
## [1] "britishDudeThatSitsInTheBackOfTheClass  ->  britishdudethatsitsinthebackoftheclass britishdudetl
## [1] "Lumpy Toiletfanny"
## [1] "- - - - - - - -"

##                           Louise Lai
##                     "- - - - - - - -"
##                   Louise Ying She Lai
##                     "- - - - - - - -"
##                        Paul Intrevado
##                     "- - - - - - - -"
##                         David Uminsky
##                     "- - - - - - - -"
##                          Terence Parr
##                     "- - - - - - - -"
##                          Jeff Hamrick
##                     "- - - - - - - -"
##                        paul intrevado
##                     "- - - - - - - -"
##                       Intrevado, Paul
##                     "- - - - - - - -"
##                        Intrevad0 Paul
##                     "- - - - - - - -"
##                    Queen Elizabeth II
##                     "- - - - - - - -"
##                   Queen Elizabeth 2nd
```

```
##                       "- - - - - - - -"
##                 Queen Elizabeth 20000TH
##                       "- - - - - - - -"
##                 John Paul Euclid Rumpel
##                       "- - - - - - - -"
## britishDudeThatSitsInTheBackOfTheClass
##                       "- - - - - - - -"
```