Data Analysis Report for Bellabeat

Ekpeteze Kenneth Uchenna

2023-11-22

INTRODUCTION:

Founded in 2013 by Urška Sršen and Sando Mur, Bellabeat swiftly became a pioneer in health-focused tech. Merging artistry and mathematics, the duo aimed to craft tech-infused products inspiring women worldwide. Dedicating itself to women's well-being, Bellabeat gathered data on key health aspects. By 2016, the company, with global offices, introduced diverse products like the Leaf tracker (bracelet/necklace/clip), the Time wellness watch, and the Spring water bottle, all uniting classic aesthetics with smart tech. At the heart of Bellabeat's offerings lies the comprehensive Bellabeat app, seamlessly connecting with smart wellness products. Beyond individual items, a subscription-based Bellabeat membership offers 24/7 personalized guidance on nutrition, activity, sleep, and more. Expanding globally, Bellabeat's products transitioned from e-commerce to various online retailers. Their advertising strategy blends traditional media with a robust digital presence, engaging users on Google, Facebook, Instagram, Twitter, and YouTube. In 2023, Chief Creative Officer Urška Sršen sees untapped potential in Bellabeat's consumer data. Tasking the marketing analytics team, including our junior analyst, the goal is clear: analyze smart device data to uncover insights, shaping the future of Bellabeat's marketing strategy. This data-driven journey aims to reveal patterns, preferences, and trends, propelling Bellabeat to new heights in the global smart device market.

In adherence to the foundational principles of data analytics—Ask, Prepare, Process, Analyze, Share, and Act— I will navigate through distinct phases in this project. By formulating targeted questions, preparing the data set meticulously, processing the data with precision,conducting insightful analyses, sharing findings transparently, and culminating in actionable recommendations,this approach ensures a comprehensive exploration of Bellabeat's smart device data. Each phase contributes to a structured and strategic progression, aligning with industry best practices in data analytics.

Ask Phase:

Urška Sršen directs the analysis of smart device usage data to understand consumer behavior beyond Bellabeat. The goal is to select a Bellabeat product for further analysis. Key questions guiding this phase include: 1. Uncover trends in smart device usage. 2. Assess the relevance of these trends to Bellabeat's customer base. 3. Explore the potential impact of identified trends on shaping Bellabeat's marketing strategy.

Business Task Summary:

Analyze non-Bellabeat smart device usage data to identify trends. Select a Bellabeat product and apply insights to inform marketing strategy.

Prepare Phase:

Utilizing public data to delve into smart device users' daily habits. The selected data set, FitBit Fitness Tracker Data, obtained from Kaggle, offers minute-level insights into physical activity, heart rate, and sleep patterns for thirty Fitbit users. The data encompasses information on daily activity, steps, and heart rate, providing a rich foundation to explore user habits. While acknowledging potential limitations in the data set, Urška Sršen suggests considering additional data sources to address any identified constraints. The data has been downloaded and stored in the 'WellnessNest' folder, extracted from the 'Fitabase Data 4.12.16-5.12.16' zip file.

In this project, I will be using R, a versatile and powerful programming language, recently mastered through a comprehensive course. The choice of R for this endeavor is not only a testament to its rich statistical functionalities but also a deliberate effort to hone y skills in this dynamic language. R's seamless integration of data analysis, visualization, and statistical modeling aligns perfectly with the objectives of unraveling intricate patterns in the smart device data for Bellabeat. It's not just a tool; it's a skill-sharpening adventure.

```
### Data Manipulation and Analysis
  library(dplyr)

##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##     filter, lag

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

library(tidyr)
library(lubridate)

##
## Attaching package: 'lubridate'

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

### Data Visualization
library(ggplot2)
library(reshape2)
```

```
## Warning: package 'reshape2' was built under R version 4.3.2

##
## Attaching package: 'reshape2'

## The following object is masked from 'package:tidyr':
##
##     smiths
```

```r
library(viridis)
```

```
## Warning: package 'viridis' was built under R version 4.3.2

## Loading required package: viridisLite
```

Importing and Handlig Data
```r
library(readr)
```
Statistical Analysis
```r
library(stats)
library(quantmod)
```

```
## Warning: package 'quantmod' was built under R version 4.3.2

## Loading required package: xts

## Warning: package 'xts' was built under R version 4.3.2

## Loading required package: zoo

## Warning: package 'zoo' was built under R version 4.3.2

##
## Attaching package: 'zoo'

## The following objects are masked from 'package:base':
##
##     as.Date, as.Date.numeric

##
## ######################### Warning from 'xts' package
###########################
## #
#
## # The dplyr lag() function breaks how base R's lag() function is supposed
to  #
## # work, which breaks lag(my_xts). Calls to lag(my_xts) that you type or
#
## # source() into this session won't work correctly.
#
## #
#
## # Use stats::lag() to make sure you're not using dplyr::lag(), or you can
add #
```

```
## # conflictRules('dplyr', exclude = 'lag') to your .Rprofile to stop
#
## # dplyr from breaking base R's lag() function.
#
## #
#
## # Code in packages is not affected. It's protected by R's namespace
mechanism #
## # Set `options(xts.warn_dplyr_breaks_lag = FALSE)` to suppress this
warning.   #
## #
#
##
################################################################################
##

##
## Attaching package: 'xts'

## The following objects are masked from 'package:dplyr':
##
##     first, last

## Loading required package: TTR

## Warning: package 'TTR' was built under R version 4.3.2

## Registered S3 method overwritten by 'quantmod':
##    method            from
##    as.zoo.data.frame zoo
```

```r
library(caret)
```

```
## Warning: package 'caret' was built under R version 4.3.2

## Loading required package: lattice

## Warning: package 'lattice' was built under R version 4.3.2
```

```r
library(psych)
```

```
## Warning: package 'psych' was built under R version 4.3.2

##
## Attaching package: 'psych'

## The following objects are masked from 'package:ggplot2':
##
##     %+%, alpha
```

Note:

All required packages have been installed using the install.packages() function; All i did was simply loading them into my environment using the library() function.

Importing Essential Tables:

Loading the key data sets, dailyActivity, dailyCalories,and dailySteps, into the R console. These tables have been meticulously chosen to represent a robust sample size for the ensuing analysis. The import process sets the stage for exploring and extracting valuable insights from Bellabeat's smart device data.

```r
dailyActivity <- read.csv("C:/Rtools/WellnessNest/dailyActivity.csv")
dailyCalories <- read.csv("C:/Rtools/WellnessNest/dailyCalories.csv")
dailySteps <- read.csv("C:/Rtools/WellnessNest/dailySteps.csv")
```

Exploration Phase:

With the essential tables successfully imported, it's now time to delve into data exploration. Uncover patterns, distributions, and relationships within the data, setting the groundwork for deeper analysis.

```r
### To get a dailyActivity table in a separate window using View function.
View(dailyActivity)

### Displaying the dimensions (number of rows and columns) of the
dailyActivity table using dim function.
dim(dailyActivity)

## [1] 940  15

### The dailyActivity table has 940 rows and 15 columns.

### Head: Shows the first few rows of the dailyActivity table to get a quick
overview.
head(dailyActivity)

##            Id ActivityDate TotalSteps TotalDistance TrackerDistance
## 1 1503960366    4/12/2016      13162          8.50            8.50
## 2 1503960366    4/13/2016      10735          6.97            6.97
## 3 1503960366    4/14/2016      10460          6.74            6.74
## 4 1503960366    4/15/2016       9762          6.28            6.28
## 5 1503960366    4/16/2016      12669          8.16            8.16
## 6 1503960366    4/17/2016       9705          6.48            6.48
##    LoggedActivitiesDistance VeryActiveDistance ModeratelyActiveDistance
## 1                         0               1.88                     0.55
## 2                         0               1.57                     0.69
## 3                         0               2.44                     0.40
## 4                         0               2.14                     1.26
## 5                         0               2.71                     0.41
```

```
## 6                              0              3.19                          0.78
##    LightActiveDistance SedentaryActiveDistance VeryActiveMinutes
## 1                 6.06                       0                25
## 2                 4.71                       0                21
## 3                 3.91                       0                30
## 4                 2.83                       0                29
## 5                 5.04                       0                36
## 6                 2.51                       0                38
##    FairlyActiveMinutes LightlyActiveMinutes SedentaryMinutes Calories
## 1                   13                  328              728     1985
## 2                   19                  217              776     1797
## 3                   11                  181             1218     1776
## 4                   34                  209              726     1745
## 5                   10                  221              773     1863
## 6                   20                  164              539     1728
```

Result of head(dailyActivity) Displays the first 6 rows of the dailyActivity table, providing a glimpse of user activity details.
The table includes columns such as 'TotalSteps,' 'VeryActiveMinutes,' 'SedentaryMinutes,' and 'Calories.'
Users' activity patterns and associated metrics are evident in these initial records.

To Display the last few rows of the dailyActivity table using tail function.
```
tail(dailyActivity)

##              Id ActivityDate TotalSteps TotalDistance TrackerDistance
## 935 8877689391     5/7/2016      12332          8.13            8.13
## 936 8877689391     5/8/2016      10686          8.11            8.11
## 937 8877689391     5/9/2016      20226         18.25           18.25
## 938 8877689391    5/10/2016      10733          8.15            8.15
## 939 8877689391    5/11/2016      21420         19.56           19.56
## 940 8877689391    5/12/2016       8064          6.12            6.12
##     LoggedActivitiesDistance VeryActiveDistance ModeratelyActiveDistance
## 935                        0               0.08                     0.96
## 936                        0               1.08                     0.20
## 937                        0              11.10                     0.80
## 938                        0               1.35                     0.46
## 939                        0              13.22                     0.41
## 940                        0               1.82                     0.04
##     LightActiveDistance SedentaryActiveDistance VeryActiveMinutes
## 935                6.99                    0.00               105
## 936                6.80                    0.00                17
## 937                6.24                    0.05                73
## 938                6.28                    0.00                18
## 939                5.89                    0.00                88
## 940                4.25                    0.00                23
##     FairlyActiveMinutes LightlyActiveMinutes SedentaryMinutes Calories
## 935                  28                  271             1036     4142
```

```
## 936                      4              245        1174    2847
## 937                     19              217        1131    3710
## 938                     11              224        1187    2832
## 939                     12              213        1127    3832
## 940                      1              137         770    1849
```

Getting a concise summary of the structure of the dailyActivity table using str function.

```
str(dailyActivity)
```

```
## 'data.frame':    940 obs. of  15 variables:
##  $ Id                     : num  1.5e+09 1.5e+09 1.5e+09 1.5e+09 1.5e+09
...
##  $ ActivityDate           : chr  "4/12/2016" "4/13/2016" "4/14/2016"
"4/15/2016" ...
##  $ TotalSteps             : int  13162 10735 10460 9762 12669 9705 13019
15506 10544 9819 ...
##  $ TotalDistance          : num  8.5 6.97 6.74 6.28 8.16 ...
##  $ TrackerDistance        : num  8.5 6.97 6.74 6.28 8.16 ...
##  $ LoggedActivitiesDistance: num  0 0 0 0 0 0 0 0 0 0 ...
##  $ VeryActiveDistance     : num  1.88 1.57 2.44 2.14 2.71 ...
##  $ ModeratelyActiveDistance: num  0.55 0.69 0.4 1.26 0.41 ...
##  $ LightActiveDistance    : num  6.06 4.71 3.91 2.83 5.04 ...
##  $ SedentaryActiveDistance : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ VeryActiveMinutes      : int  25 21 30 29 36 38 42 50 28 19 ...
##  $ FairlyActiveMinutes    : int  13 19 11 34 10 20 16 31 12 8 ...
##  $ LightlyActiveMinutes   : int  328 217 181 209 221 164 233 264 205 211
...
##  $ SedentaryMinutes       : int  728 776 1218 726 773 539 1149 775 818
838 ...
##  $ Calories               : int  1985 1797 1776 1745 1863 1728 1921 2035
1786 1775 ...
```

Result of str(dailyActivity) Displays the structure of the dailyActivity table, showcasing data types and dimensions.
The table consists of 940 observations across 15 variables, featuring a mix of numeric and character data types.
Key variables include 'TotalSteps,' 'VeryActiveMinutes,' and 'Calories.'

Glimpse Offers a glimpse into the dailyActivity table with a concise display.

```
glimpse(dailyActivity)
```

```
## Rows: 940
## Columns: 15
## $ Id                     <dbl> 1503960366, 1503960366, 1503960366,
150396036…
## $ ActivityDate           <chr> "4/12/2016", "4/13/2016", "4/14/2016",
"4/15/…
## $ TotalSteps             <int> 13162, 10735, 10460, 9762, 12669, 9705,
13019…
```

```
## $ TotalDistance           <dbl> 8.50, 6.97, 6.74, 6.28, 8.16, 6.48, 8.59,
9.8…
## $ TrackerDistance         <dbl> 8.50, 6.97, 6.74, 6.28, 8.16, 6.48, 8.59,
9.8…
## $ LoggedActivitiesDistance <dbl> 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, …
## $ VeryActiveDistance      <dbl> 1.88, 1.57, 2.44, 2.14, 2.71, 3.19, 3.25,
3.5…
## $ ModeratelyActiveDistance <dbl> 0.55, 0.69, 0.40, 1.26, 0.41, 0.78, 0.64,
1.3…
## $ LightActiveDistance     <dbl> 6.06, 4.71, 3.91, 2.83, 5.04, 2.51, 4.71,
5.0…
## $ SedentaryActiveDistance  <dbl> 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, …
## $ VeryActiveMinutes       <int> 25, 21, 30, 29, 36, 38, 42, 50, 28, 19,
66, 4…
## $ FairlyActiveMinutes     <int> 13, 19, 11, 34, 10, 20, 16, 31, 12, 8,
27, 21…
## $ LightlyActiveMinutes    <int> 328, 217, 181, 209, 221, 164, 233, 264,
205, …
## $ SedentaryMinutes        <int> 728, 776, 1218, 726, 773, 539, 1149, 775,
818…
## $ Calories                <int> 1985, 1797, 1776, 1745, 1863, 1728, 1921,
203…
```

To Retrieves and prints the column names of the dailyActivity table i used Names function.
```
names(dailyActivity)
```

```
##  [1] "Id"                    "ActivityDate"
##  [3] "TotalSteps"            "TotalDistance"
##  [5] "TrackerDistance"       "LoggedActivitiesDistance"
##  [7] "VeryActiveDistance"    "ModeratelyActiveDistance"
##  [9] "LightActiveDistance"   "SedentaryActiveDistance"
## [11] "VeryActiveMinutes"     "FairlyActiveMinutes"
## [13] "LightlyActiveMinutes"  "SedentaryMinutes"
## [15] "Calories"
```

Result of names(dailyActivity) Displaying the column names of the dailyActivity table.
It's observed that some variable names are not appropriately formatted.
For enhanced readability and consistency,i will be using underscores between words (snake_case),
in order to make variable names more uniform and easier to interpret, contributing to a clearer analysis.
This will be addressed during the cleaning and manipulation phase to ensure consistency and clarity.

To get the unique identifiers (IDs) in the 'Id' column of dailyActivity

using distinct and unique functions.
distinct(dailyActivity,Id)

```
##             Id
## 1   1503960366
## 2   1624580081
## 3   1644430081
## 4   1844505072
## 5   1927972279
## 6   2022484408
## 7   2026352035
## 8   2320127002
## 9   2347167796
## 10 2873212765
## 11 3372868164
## 12 3977333714
## 13 4020332650
## 14 4057192912
## 15 4319703577
## 16 4388161847
## 17 4445114986
## 18 4558609924
## 19 4702921684
## 20 5553957443
## 21 5577150313
## 22 6117666160
## 23 6290855005
## 24 6775888955
## 25 6962181067
## 26 7007744171
## 27 7086361926
## 28 8053475328
## 29 8253242879
## 30 8378563200
## 31 8583815059
## 32 8792009665
## 33 8877689391
```

unique(dailyActivity**$**Id)

```
##  [1] 1503960366 1624580081 1644430081 1844505072 1927972279 2022484408
##  [7] 2026352035 2320127002 2347167796 2873212765 3372868164 3977333714
## [13] 4020332650 4057192912 4319703577 4388161847 4445114986 4558609924
## [19] 4702921684 5553957443 5577150313 6117666160 6290855005 6775888955
## [25] 6962181067 7007744171 7086361926 8053475328 8253242879 8378563200
## [31] 8583815059 8792009665 8877689391
```

Result of distinct(dailyActivity, Id) displays unique values in the 'Id'
column of the dailyActivity table.
The result shows that there are 33 distinct users represented by their
'Id' in the dataset.

```
### To identifies missing values in the dailyActivity table using is.na and
sum functions.
is.na(dailyActivity)
```

```
##            Id ActivityDate TotalSteps TotalDistance TrackerDistance
##  [1,] FALSE         FALSE      FALSE         FALSE           FALSE
##  [2,] FALSE         FALSE      FALSE         FALSE           FALSE
##  [3,] FALSE         FALSE      FALSE         FALSE           FALSE
##  [4,] FALSE         FALSE      FALSE         FALSE           FALSE
##  [5,] FALSE         FALSE      FALSE         FALSE           FALSE
##  [6,] FALSE         FALSE      FALSE         FALSE           FALSE
##  [7,] FALSE         FALSE      FALSE         FALSE           FALSE
##  [8,] FALSE         FALSE      FALSE         FALSE           FALSE
##  [9,] FALSE         FALSE      FALSE         FALSE           FALSE
## [10,] FALSE         FALSE      FALSE         FALSE           FALSE
## [11,] FALSE         FALSE      FALSE         FALSE           FALSE
## [12,] FALSE         FALSE      FALSE         FALSE           FALSE
## [13,] FALSE         FALSE      FALSE         FALSE           FALSE
## [14,] FALSE         FALSE      FALSE         FALSE           FALSE
## [15,] FALSE         FALSE      FALSE         FALSE           FALSE
## [16,] FALSE         FALSE      FALSE         FALSE           FALSE
## [17,] FALSE         FALSE      FALSE         FALSE           FALSE
## [18,] FALSE         FALSE      FALSE         FALSE           FALSE
## [19,] FALSE         FALSE      FALSE         FALSE           FALSE
## [20,] FALSE         FALSE      FALSE         FALSE           FALSE
## [21,] FALSE         FALSE      FALSE         FALSE           FALSE
## [22,] FALSE         FALSE      FALSE         FALSE           FALSE
## [23,] FALSE         FALSE      FALSE         FALSE           FALSE
## [24,] FALSE         FALSE      FALSE         FALSE           FALSE
## [25,] FALSE         FALSE      FALSE         FALSE           FALSE
## [26,] FALSE         FALSE      FALSE         FALSE           FALSE
## [27,] FALSE         FALSE      FALSE         FALSE           FALSE
## [28,] FALSE         FALSE      FALSE         FALSE           FALSE
## [29,] FALSE         FALSE      FALSE         FALSE           FALSE
## [30,] FALSE         FALSE      FALSE         FALSE           FALSE
## [31,] FALSE         FALSE      FALSE         FALSE           FALSE
## [32,] FALSE         FALSE      FALSE         FALSE           FALSE
## [33,] FALSE         FALSE      FALSE         FALSE           FALSE
## [34,] FALSE         FALSE      FALSE         FALSE           FALSE
## [35,] FALSE         FALSE      FALSE         FALSE           FALSE
## [36,] FALSE         FALSE      FALSE         FALSE           FALSE
## [37,] FALSE         FALSE      FALSE         FALSE           FALSE
## [38,] FALSE         FALSE      FALSE         FALSE           FALSE
## [39,] FALSE         FALSE      FALSE         FALSE           FALSE
## [40,] FALSE         FALSE      FALSE         FALSE           FALSE
## [41,] FALSE         FALSE      FALSE         FALSE           FALSE
## [42,] FALSE         FALSE      FALSE         FALSE           FALSE
## [43,] FALSE         FALSE      FALSE         FALSE           FALSE
## [44,] FALSE         FALSE      FALSE         FALSE           FALSE
```

```
## [45,] FALSE        FALSE        FALSE        FALSE        FALSE
## [46,] FALSE        FALSE        FALSE        FALSE        FALSE
## [47,] FALSE        FALSE        FALSE        FALSE        FALSE
## [48,] FALSE        FALSE        FALSE        FALSE        FALSE
## [49,] FALSE        FALSE        FALSE        FALSE        FALSE
## [50,] FALSE        FALSE        FALSE        FALSE        FALSE
## [51,] FALSE        FALSE        FALSE        FALSE        FALSE
## [52,] FALSE        FALSE        FALSE        FALSE        FALSE
## [53,] FALSE        FALSE        FALSE        FALSE        FALSE
## [54,] FALSE        FALSE        FALSE        FALSE        FALSE
## [55,] FALSE        FALSE        FALSE        FALSE        FALSE
## [56,] FALSE        FALSE        FALSE        FALSE        FALSE
## [57,] FALSE        FALSE        FALSE        FALSE        FALSE
## [58,] FALSE        FALSE        FALSE        FALSE        FALSE
## [59,] FALSE        FALSE        FALSE        FALSE        FALSE
## [60,] FALSE        FALSE        FALSE        FALSE        FALSE
## [61,] FALSE        FALSE        FALSE        FALSE        FALSE
## [62,] FALSE        FALSE        FALSE        FALSE        FALSE
## [63,] FALSE        FALSE        FALSE        FALSE        FALSE
## [64,] FALSE        FALSE        FALSE        FALSE        FALSE
## [65,] FALSE        FALSE        FALSE        FALSE        FALSE
## [66,] FALSE        FALSE        FALSE        FALSE        FALSE
## [67,] FALSE        FALSE        FALSE        FALSE        FALSE
## [68,] FALSE        FALSE        FALSE        FALSE        FALSE
## [69,] FALSE        FALSE        FALSE        FALSE        FALSE
## [70,] FALSE        FALSE        FALSE        FALSE        FALSE
## [71,] FALSE        FALSE        FALSE        FALSE        FALSE
## [72,] FALSE        FALSE        FALSE        FALSE        FALSE
## [73,] FALSE        FALSE        FALSE        FALSE        FALSE
## [74,] FALSE        FALSE        FALSE        FALSE        FALSE
## [75,] FALSE        FALSE        FALSE        FALSE        FALSE
## [76,] FALSE        FALSE        FALSE        FALSE        FALSE
## [77,] FALSE        FALSE        FALSE        FALSE        FALSE
## [78,] FALSE        FALSE        FALSE        FALSE        FALSE
## [79,] FALSE        FALSE        FALSE        FALSE        FALSE
## [80,] FALSE        FALSE        FALSE        FALSE        FALSE
## [81,] FALSE        FALSE        FALSE        FALSE        FALSE
## [82,] FALSE        FALSE        FALSE        FALSE        FALSE
## [83,] FALSE        FALSE        FALSE        FALSE        FALSE
## [84,] FALSE        FALSE        FALSE        FALSE        FALSE
## [85,] FALSE        FALSE        FALSE        FALSE        FALSE
## [86,] FALSE        FALSE        FALSE        FALSE        FALSE
## [87,] FALSE        FALSE        FALSE        FALSE        FALSE
## [88,] FALSE        FALSE        FALSE        FALSE        FALSE
## [89,] FALSE        FALSE        FALSE        FALSE        FALSE
## [90,] FALSE        FALSE        FALSE        FALSE        FALSE
## [91,] FALSE        FALSE        FALSE        FALSE        FALSE
## [92,] FALSE        FALSE        FALSE        FALSE        FALSE
## [93,] FALSE        FALSE        FALSE        FALSE        FALSE
## [94,] FALSE        FALSE        FALSE        FALSE        FALSE
```

```
##  [95,] FALSE       FALSE       FALSE       FALSE       FALSE
##  [96,] FALSE       FALSE       FALSE       FALSE       FALSE
##  [97,] FALSE       FALSE       FALSE       FALSE       FALSE
##  [98,] FALSE       FALSE       FALSE       FALSE       FALSE
##  [99,] FALSE       FALSE       FALSE       FALSE       FALSE
## [100,] FALSE       FALSE       FALSE       FALSE       FALSE
## [101,] FALSE       FALSE       FALSE       FALSE       FALSE
## [102,] FALSE       FALSE       FALSE       FALSE       FALSE
## [103,] FALSE       FALSE       FALSE       FALSE       FALSE
## [104,] FALSE       FALSE       FALSE       FALSE       FALSE
## [105,] FALSE       FALSE       FALSE       FALSE       FALSE
## [106,] FALSE       FALSE       FALSE       FALSE       FALSE
## [107,] FALSE       FALSE       FALSE       FALSE       FALSE
## [108,] FALSE       FALSE       FALSE       FALSE       FALSE
## [109,] FALSE       FALSE       FALSE       FALSE       FALSE
## [110,] FALSE       FALSE       FALSE       FALSE       FALSE
## [111,] FALSE       FALSE       FALSE       FALSE       FALSE
## [112,] FALSE       FALSE       FALSE       FALSE       FALSE
## [113,] FALSE       FALSE       FALSE       FALSE       FALSE
## [114,] FALSE       FALSE       FALSE       FALSE       FALSE
## [115,] FALSE       FALSE       FALSE       FALSE       FALSE
## [116,] FALSE       FALSE       FALSE       FALSE       FALSE
## [117,] FALSE       FALSE       FALSE       FALSE       FALSE
## [118,] FALSE       FALSE       FALSE       FALSE       FALSE
## [119,] FALSE       FALSE       FALSE       FALSE       FALSE
## [120,] FALSE       FALSE       FALSE       FALSE       FALSE
## [121,] FALSE       FALSE       FALSE       FALSE       FALSE
## [122,] FALSE       FALSE       FALSE       FALSE       FALSE
## [123,] FALSE       FALSE       FALSE       FALSE       FALSE
## [124,] FALSE       FALSE       FALSE       FALSE       FALSE
## [125,] FALSE       FALSE       FALSE       FALSE       FALSE
## [126,] FALSE       FALSE       FALSE       FALSE       FALSE
## [127,] FALSE       FALSE       FALSE       FALSE       FALSE
## [128,] FALSE       FALSE       FALSE       FALSE       FALSE
## [129,] FALSE       FALSE       FALSE       FALSE       FALSE
## [130,] FALSE       FALSE       FALSE       FALSE       FALSE
## [131,] FALSE       FALSE       FALSE       FALSE       FALSE
## [132,] FALSE       FALSE       FALSE       FALSE       FALSE
## [133,] FALSE       FALSE       FALSE       FALSE       FALSE
## [134,] FALSE       FALSE       FALSE       FALSE       FALSE
## [135,] FALSE       FALSE       FALSE       FALSE       FALSE
## [136,] FALSE       FALSE       FALSE       FALSE       FALSE
## [137,] FALSE       FALSE       FALSE       FALSE       FALSE
## [138,] FALSE       FALSE       FALSE       FALSE       FALSE
## [139,] FALSE       FALSE       FALSE       FALSE       FALSE
## [140,] FALSE       FALSE       FALSE       FALSE       FALSE
## [141,] FALSE       FALSE       FALSE       FALSE       FALSE
## [142,] FALSE       FALSE       FALSE       FALSE       FALSE
## [143,] FALSE       FALSE       FALSE       FALSE       FALSE
## [144,] FALSE       FALSE       FALSE       FALSE       FALSE
```

```
## [145,] FALSE          FALSE          FALSE          FALSE          FALSE
## [146,] FALSE          FALSE          FALSE          FALSE          FALSE
## [147,] FALSE          FALSE          FALSE          FALSE          FALSE
## [148,] FALSE          FALSE          FALSE          FALSE          FALSE
## [149,] FALSE          FALSE          FALSE          FALSE          FALSE
## [150,] FALSE          FALSE          FALSE          FALSE          FALSE
## [151,] FALSE          FALSE          FALSE          FALSE          FALSE
## [152,] FALSE          FALSE          FALSE          FALSE          FALSE
## [153,] FALSE          FALSE          FALSE          FALSE          FALSE
## [154,] FALSE          FALSE          FALSE          FALSE          FALSE
## [155,] FALSE          FALSE          FALSE          FALSE          FALSE
## [156,] FALSE          FALSE          FALSE          FALSE          FALSE
## [157,] FALSE          FALSE          FALSE          FALSE          FALSE
## [158,] FALSE          FALSE          FALSE          FALSE          FALSE
## [159,] FALSE          FALSE          FALSE          FALSE          FALSE
## [160,] FALSE          FALSE          FALSE          FALSE          FALSE
## [161,] FALSE          FALSE          FALSE          FALSE          FALSE
## [162,] FALSE          FALSE          FALSE          FALSE          FALSE
## [163,] FALSE          FALSE          FALSE          FALSE          FALSE
## [164,] FALSE          FALSE          FALSE          FALSE          FALSE
## [165,] FALSE          FALSE          FALSE          FALSE          FALSE
## [166,] FALSE          FALSE          FALSE          FALSE          FALSE
## [167,] FALSE          FALSE          FALSE          FALSE          FALSE
## [168,] FALSE          FALSE          FALSE          FALSE          FALSE
## [169,] FALSE          FALSE          FALSE          FALSE          FALSE
## [170,] FALSE          FALSE          FALSE          FALSE          FALSE
## [171,] FALSE          FALSE          FALSE          FALSE          FALSE
## [172,] FALSE          FALSE          FALSE          FALSE          FALSE
## [173,] FALSE          FALSE          FALSE          FALSE          FALSE
## [174,] FALSE          FALSE          FALSE          FALSE          FALSE
## [175,] FALSE          FALSE          FALSE          FALSE          FALSE
## [176,] FALSE          FALSE          FALSE          FALSE          FALSE
## [177,] FALSE          FALSE          FALSE          FALSE          FALSE
## [178,] FALSE          FALSE          FALSE          FALSE          FALSE
## [179,] FALSE          FALSE          FALSE          FALSE          FALSE
## [180,] FALSE          FALSE          FALSE          FALSE          FALSE
## [181,] FALSE          FALSE          FALSE          FALSE          FALSE
## [182,] FALSE          FALSE          FALSE          FALSE          FALSE
## [183,] FALSE          FALSE          FALSE          FALSE          FALSE
## [184,] FALSE          FALSE          FALSE          FALSE          FALSE
## [185,] FALSE          FALSE          FALSE          FALSE          FALSE
## [186,] FALSE          FALSE          FALSE          FALSE          FALSE
## [187,] FALSE          FALSE          FALSE          FALSE          FALSE
## [188,] FALSE          FALSE          FALSE          FALSE          FALSE
## [189,] FALSE          FALSE          FALSE          FALSE          FALSE
## [190,] FALSE          FALSE          FALSE          FALSE          FALSE
## [191,] FALSE          FALSE          FALSE          FALSE          FALSE
## [192,] FALSE          FALSE          FALSE          FALSE          FALSE
## [193,] FALSE          FALSE          FALSE          FALSE          FALSE
## [194,] FALSE          FALSE          FALSE          FALSE          FALSE
```

```
## [195,] FALSE        FALSE        FALSE        FALSE        FALSE
## [196,] FALSE        FALSE        FALSE        FALSE        FALSE
## [197,] FALSE        FALSE        FALSE        FALSE        FALSE
## [198,] FALSE        FALSE        FALSE        FALSE        FALSE
## [199,] FALSE        FALSE        FALSE        FALSE        FALSE
## [200,] FALSE        FALSE        FALSE        FALSE        FALSE
## [201,] FALSE        FALSE        FALSE        FALSE        FALSE
## [202,] FALSE        FALSE        FALSE        FALSE        FALSE
## [203,] FALSE        FALSE        FALSE        FALSE        FALSE
## [204,] FALSE        FALSE        FALSE        FALSE        FALSE
## [205,] FALSE        FALSE        FALSE        FALSE        FALSE
## [206,] FALSE        FALSE        FALSE        FALSE        FALSE
## [207,] FALSE        FALSE        FALSE        FALSE        FALSE
## [208,] FALSE        FALSE        FALSE        FALSE        FALSE
## [209,] FALSE        FALSE        FALSE        FALSE        FALSE
## [210,] FALSE        FALSE        FALSE        FALSE        FALSE
## [211,] FALSE        FALSE        FALSE        FALSE        FALSE
## [212,] FALSE        FALSE        FALSE        FALSE        FALSE
## [213,] FALSE        FALSE        FALSE        FALSE        FALSE
## [214,] FALSE        FALSE        FALSE        FALSE        FALSE
## [215,] FALSE        FALSE        FALSE        FALSE        FALSE
## [216,] FALSE        FALSE        FALSE        FALSE        FALSE
## [217,] FALSE        FALSE        FALSE        FALSE        FALSE
## [218,] FALSE        FALSE        FALSE        FALSE        FALSE
## [219,] FALSE        FALSE        FALSE        FALSE        FALSE
## [220,] FALSE        FALSE        FALSE        FALSE        FALSE
## [221,] FALSE        FALSE        FALSE        FALSE        FALSE
## [222,] FALSE        FALSE        FALSE        FALSE        FALSE
## [223,] FALSE        FALSE        FALSE        FALSE        FALSE
## [224,] FALSE        FALSE        FALSE        FALSE        FALSE
## [225,] FALSE        FALSE        FALSE        FALSE        FALSE
## [226,] FALSE        FALSE        FALSE        FALSE        FALSE
## [227,] FALSE        FALSE        FALSE        FALSE        FALSE
## [228,] FALSE        FALSE        FALSE        FALSE        FALSE
## [229,] FALSE        FALSE        FALSE        FALSE        FALSE
## [230,] FALSE        FALSE        FALSE        FALSE        FALSE
## [231,] FALSE        FALSE        FALSE        FALSE        FALSE
## [232,] FALSE        FALSE        FALSE        FALSE        FALSE
## [233,] FALSE        FALSE        FALSE        FALSE        FALSE
## [234,] FALSE        FALSE        FALSE        FALSE        FALSE
## [235,] FALSE        FALSE        FALSE        FALSE        FALSE
## [236,] FALSE        FALSE        FALSE        FALSE        FALSE
## [237,] FALSE        FALSE        FALSE        FALSE        FALSE
## [238,] FALSE        FALSE        FALSE        FALSE        FALSE
## [239,] FALSE        FALSE        FALSE        FALSE        FALSE
## [240,] FALSE        FALSE        FALSE        FALSE        FALSE
## [241,] FALSE        FALSE        FALSE        FALSE        FALSE
## [242,] FALSE        FALSE        FALSE        FALSE        FALSE
## [243,] FALSE        FALSE        FALSE        FALSE        FALSE
## [244,] FALSE        FALSE        FALSE        FALSE        FALSE
```

```
## [245,] FALSE         FALSE         FALSE         FALSE         FALSE
## [246,] FALSE         FALSE         FALSE         FALSE         FALSE
## [247,] FALSE         FALSE         FALSE         FALSE         FALSE
## [248,] FALSE         FALSE         FALSE         FALSE         FALSE
## [249,] FALSE         FALSE         FALSE         FALSE         FALSE
## [250,] FALSE         FALSE         FALSE         FALSE         FALSE
## [251,] FALSE         FALSE         FALSE         FALSE         FALSE
## [252,] FALSE         FALSE         FALSE         FALSE         FALSE
## [253,] FALSE         FALSE         FALSE         FALSE         FALSE
## [254,] FALSE         FALSE         FALSE         FALSE         FALSE
## [255,] FALSE         FALSE         FALSE         FALSE         FALSE
## [256,] FALSE         FALSE         FALSE         FALSE         FALSE
## [257,] FALSE         FALSE         FALSE         FALSE         FALSE
## [258,] FALSE         FALSE         FALSE         FALSE         FALSE
## [259,] FALSE         FALSE         FALSE         FALSE         FALSE
## [260,] FALSE         FALSE         FALSE         FALSE         FALSE
## [261,] FALSE         FALSE         FALSE         FALSE         FALSE
## [262,] FALSE         FALSE         FALSE         FALSE         FALSE
## [263,] FALSE         FALSE         FALSE         FALSE         FALSE
## [264,] FALSE         FALSE         FALSE         FALSE         FALSE
## [265,] FALSE         FALSE         FALSE         FALSE         FALSE
## [266,] FALSE         FALSE         FALSE         FALSE         FALSE
## [267,] FALSE         FALSE         FALSE         FALSE         FALSE
## [268,] FALSE         FALSE         FALSE         FALSE         FALSE
## [269,] FALSE         FALSE         FALSE         FALSE         FALSE
## [270,] FALSE         FALSE         FALSE         FALSE         FALSE
## [271,] FALSE         FALSE         FALSE         FALSE         FALSE
## [272,] FALSE         FALSE         FALSE         FALSE         FALSE
## [273,] FALSE         FALSE         FALSE         FALSE         FALSE
## [274,] FALSE         FALSE         FALSE         FALSE         FALSE
## [275,] FALSE         FALSE         FALSE         FALSE         FALSE
## [276,] FALSE         FALSE         FALSE         FALSE         FALSE
## [277,] FALSE         FALSE         FALSE         FALSE         FALSE
## [278,] FALSE         FALSE         FALSE         FALSE         FALSE
## [279,] FALSE         FALSE         FALSE         FALSE         FALSE
## [280,] FALSE         FALSE         FALSE         FALSE         FALSE
## [281,] FALSE         FALSE         FALSE         FALSE         FALSE
## [282,] FALSE         FALSE         FALSE         FALSE         FALSE
## [283,] FALSE         FALSE         FALSE         FALSE         FALSE
## [284,] FALSE         FALSE         FALSE         FALSE         FALSE
## [285,] FALSE         FALSE         FALSE         FALSE         FALSE
## [286,] FALSE         FALSE         FALSE         FALSE         FALSE
## [287,] FALSE         FALSE         FALSE         FALSE         FALSE
## [288,] FALSE         FALSE         FALSE         FALSE         FALSE
## [289,] FALSE         FALSE         FALSE         FALSE         FALSE
## [290,] FALSE         FALSE         FALSE         FALSE         FALSE
## [291,] FALSE         FALSE         FALSE         FALSE         FALSE
## [292,] FALSE         FALSE         FALSE         FALSE         FALSE
## [293,] FALSE         FALSE         FALSE         FALSE         FALSE
## [294,] FALSE         FALSE         FALSE         FALSE         FALSE
```

```
## [295,] FALSE       FALSE       FALSE       FALSE       FALSE
## [296,] FALSE       FALSE       FALSE       FALSE       FALSE
## [297,] FALSE       FALSE       FALSE       FALSE       FALSE
## [298,] FALSE       FALSE       FALSE       FALSE       FALSE
## [299,] FALSE       FALSE       FALSE       FALSE       FALSE
## [300,] FALSE       FALSE       FALSE       FALSE       FALSE
## [301,] FALSE       FALSE       FALSE       FALSE       FALSE
## [302,] FALSE       FALSE       FALSE       FALSE       FALSE
## [303,] FALSE       FALSE       FALSE       FALSE       FALSE
## [304,] FALSE       FALSE       FALSE       FALSE       FALSE
## [305,] FALSE       FALSE       FALSE       FALSE       FALSE
## [306,] FALSE       FALSE       FALSE       FALSE       FALSE
## [307,] FALSE       FALSE       FALSE       FALSE       FALSE
## [308,] FALSE       FALSE       FALSE       FALSE       FALSE
## [309,] FALSE       FALSE       FALSE       FALSE       FALSE
## [310,] FALSE       FALSE       FALSE       FALSE       FALSE
## [311,] FALSE       FALSE       FALSE       FALSE       FALSE
## [312,] FALSE       FALSE       FALSE       FALSE       FALSE
## [313,] FALSE       FALSE       FALSE       FALSE       FALSE
## [314,] FALSE       FALSE       FALSE       FALSE       FALSE
## [315,] FALSE       FALSE       FALSE       FALSE       FALSE
## [316,] FALSE       FALSE       FALSE       FALSE       FALSE
## [317,] FALSE       FALSE       FALSE       FALSE       FALSE
## [318,] FALSE       FALSE       FALSE       FALSE       FALSE
## [319,] FALSE       FALSE       FALSE       FALSE       FALSE
## [320,] FALSE       FALSE       FALSE       FALSE       FALSE
## [321,] FALSE       FALSE       FALSE       FALSE       FALSE
## [322,] FALSE       FALSE       FALSE       FALSE       FALSE
## [323,] FALSE       FALSE       FALSE       FALSE       FALSE
## [324,] FALSE       FALSE       FALSE       FALSE       FALSE
## [325,] FALSE       FALSE       FALSE       FALSE       FALSE
## [326,] FALSE       FALSE       FALSE       FALSE       FALSE
## [327,] FALSE       FALSE       FALSE       FALSE       FALSE
## [328,] FALSE       FALSE       FALSE       FALSE       FALSE
## [329,] FALSE       FALSE       FALSE       FALSE       FALSE
## [330,] FALSE       FALSE       FALSE       FALSE       FALSE
## [331,] FALSE       FALSE       FALSE       FALSE       FALSE
## [332,] FALSE       FALSE       FALSE       FALSE       FALSE
## [333,] FALSE       FALSE       FALSE       FALSE       FALSE
## [334,] FALSE       FALSE       FALSE       FALSE       FALSE
## [335,] FALSE       FALSE       FALSE       FALSE       FALSE
## [336,] FALSE       FALSE       FALSE       FALSE       FALSE
## [337,] FALSE       FALSE       FALSE       FALSE       FALSE
## [338,] FALSE       FALSE       FALSE       FALSE       FALSE
## [339,] FALSE       FALSE       FALSE       FALSE       FALSE
## [340,] FALSE       FALSE       FALSE       FALSE       FALSE
## [341,] FALSE       FALSE       FALSE       FALSE       FALSE
## [342,] FALSE       FALSE       FALSE       FALSE       FALSE
## [343,] FALSE       FALSE       FALSE       FALSE       FALSE
## [344,] FALSE       FALSE       FALSE       FALSE       FALSE
```

```
## [345,] FALSE      FALSE      FALSE      FALSE      FALSE
## [346,] FALSE      FALSE      FALSE      FALSE      FALSE
## [347,] FALSE      FALSE      FALSE      FALSE      FALSE
## [348,] FALSE      FALSE      FALSE      FALSE      FALSE
## [349,] FALSE      FALSE      FALSE      FALSE      FALSE
## [350,] FALSE      FALSE      FALSE      FALSE      FALSE
## [351,] FALSE      FALSE      FALSE      FALSE      FALSE
## [352,] FALSE      FALSE      FALSE      FALSE      FALSE
## [353,] FALSE      FALSE      FALSE      FALSE      FALSE
## [354,] FALSE      FALSE      FALSE      FALSE      FALSE
## [355,] FALSE      FALSE      FALSE      FALSE      FALSE
## [356,] FALSE      FALSE      FALSE      FALSE      FALSE
## [357,] FALSE      FALSE      FALSE      FALSE      FALSE
## [358,] FALSE      FALSE      FALSE      FALSE      FALSE
## [359,] FALSE      FALSE      FALSE      FALSE      FALSE
## [360,] FALSE      FALSE      FALSE      FALSE      FALSE
## [361,] FALSE      FALSE      FALSE      FALSE      FALSE
## [362,] FALSE      FALSE      FALSE      FALSE      FALSE
## [363,] FALSE      FALSE      FALSE      FALSE      FALSE
## [364,] FALSE      FALSE      FALSE      FALSE      FALSE
## [365,] FALSE      FALSE      FALSE      FALSE      FALSE
## [366,] FALSE      FALSE      FALSE      FALSE      FALSE
## [367,] FALSE      FALSE      FALSE      FALSE      FALSE
## [368,] FALSE      FALSE      FALSE      FALSE      FALSE
## [369,] FALSE      FALSE      FALSE      FALSE      FALSE
## [370,] FALSE      FALSE      FALSE      FALSE      FALSE
## [371,] FALSE      FALSE      FALSE      FALSE      FALSE
## [372,] FALSE      FALSE      FALSE      FALSE      FALSE
## [373,] FALSE      FALSE      FALSE      FALSE      FALSE
## [374,] FALSE      FALSE      FALSE      FALSE      FALSE
## [375,] FALSE      FALSE      FALSE      FALSE      FALSE
## [376,] FALSE      FALSE      FALSE      FALSE      FALSE
## [377,] FALSE      FALSE      FALSE      FALSE      FALSE
## [378,] FALSE      FALSE      FALSE      FALSE      FALSE
## [379,] FALSE      FALSE      FALSE      FALSE      FALSE
## [380,] FALSE      FALSE      FALSE      FALSE      FALSE
## [381,] FALSE      FALSE      FALSE      FALSE      FALSE
## [382,] FALSE      FALSE      FALSE      FALSE      FALSE
## [383,] FALSE      FALSE      FALSE      FALSE      FALSE
## [384,] FALSE      FALSE      FALSE      FALSE      FALSE
## [385,] FALSE      FALSE      FALSE      FALSE      FALSE
## [386,] FALSE      FALSE      FALSE      FALSE      FALSE
## [387,] FALSE      FALSE      FALSE      FALSE      FALSE
## [388,] FALSE      FALSE      FALSE      FALSE      FALSE
## [389,] FALSE      FALSE      FALSE      FALSE      FALSE
## [390,] FALSE      FALSE      FALSE      FALSE      FALSE
## [391,] FALSE      FALSE      FALSE      FALSE      FALSE
## [392,] FALSE      FALSE      FALSE      FALSE      FALSE
## [393,] FALSE      FALSE      FALSE      FALSE      FALSE
## [394,] FALSE      FALSE      FALSE      FALSE      FALSE
```

```
## [395,] FALSE      FALSE      FALSE      FALSE      FALSE
## [396,] FALSE      FALSE      FALSE      FALSE      FALSE
## [397,] FALSE      FALSE      FALSE      FALSE      FALSE
## [398,] FALSE      FALSE      FALSE      FALSE      FALSE
## [399,] FALSE      FALSE      FALSE      FALSE      FALSE
## [400,] FALSE      FALSE      FALSE      FALSE      FALSE
## [401,] FALSE      FALSE      FALSE      FALSE      FALSE
## [402,] FALSE      FALSE      FALSE      FALSE      FALSE
## [403,] FALSE      FALSE      FALSE      FALSE      FALSE
## [404,] FALSE      FALSE      FALSE      FALSE      FALSE
## [405,] FALSE      FALSE      FALSE      FALSE      FALSE
## [406,] FALSE      FALSE      FALSE      FALSE      FALSE
## [407,] FALSE      FALSE      FALSE      FALSE      FALSE
## [408,] FALSE      FALSE      FALSE      FALSE      FALSE
## [409,] FALSE      FALSE      FALSE      FALSE      FALSE
## [410,] FALSE      FALSE      FALSE      FALSE      FALSE
## [411,] FALSE      FALSE      FALSE      FALSE      FALSE
## [412,] FALSE      FALSE      FALSE      FALSE      FALSE
## [413,] FALSE      FALSE      FALSE      FALSE      FALSE
## [414,] FALSE      FALSE      FALSE      FALSE      FALSE
## [415,] FALSE      FALSE      FALSE      FALSE      FALSE
## [416,] FALSE      FALSE      FALSE      FALSE      FALSE
## [417,] FALSE      FALSE      FALSE      FALSE      FALSE
## [418,] FALSE      FALSE      FALSE      FALSE      FALSE
## [419,] FALSE      FALSE      FALSE      FALSE      FALSE
## [420,] FALSE      FALSE      FALSE      FALSE      FALSE
## [421,] FALSE      FALSE      FALSE      FALSE      FALSE
## [422,] FALSE      FALSE      FALSE      FALSE      FALSE
## [423,] FALSE      FALSE      FALSE      FALSE      FALSE
## [424,] FALSE      FALSE      FALSE      FALSE      FALSE
## [425,] FALSE      FALSE      FALSE      FALSE      FALSE
## [426,] FALSE      FALSE      FALSE      FALSE      FALSE
## [427,] FALSE      FALSE      FALSE      FALSE      FALSE
## [428,] FALSE      FALSE      FALSE      FALSE      FALSE
## [429,] FALSE      FALSE      FALSE      FALSE      FALSE
## [430,] FALSE      FALSE      FALSE      FALSE      FALSE
## [431,] FALSE      FALSE      FALSE      FALSE      FALSE
## [432,] FALSE      FALSE      FALSE      FALSE      FALSE
## [433,] FALSE      FALSE      FALSE      FALSE      FALSE
## [434,] FALSE      FALSE      FALSE      FALSE      FALSE
## [435,] FALSE      FALSE      FALSE      FALSE      FALSE
## [436,] FALSE      FALSE      FALSE      FALSE      FALSE
## [437,] FALSE      FALSE      FALSE      FALSE      FALSE
## [438,] FALSE      FALSE      FALSE      FALSE      FALSE
## [439,] FALSE      FALSE      FALSE      FALSE      FALSE
## [440,] FALSE      FALSE      FALSE      FALSE      FALSE
## [441,] FALSE      FALSE      FALSE      FALSE      FALSE
## [442,] FALSE      FALSE      FALSE      FALSE      FALSE
## [443,] FALSE      FALSE      FALSE      FALSE      FALSE
## [444,] FALSE      FALSE      FALSE      FALSE      FALSE
```

```
## [445,] FALSE        FALSE        FALSE        FALSE        FALSE
## [446,] FALSE        FALSE        FALSE        FALSE        FALSE
## [447,] FALSE        FALSE        FALSE        FALSE        FALSE
## [448,] FALSE        FALSE        FALSE        FALSE        FALSE
## [449,] FALSE        FALSE        FALSE        FALSE        FALSE
## [450,] FALSE        FALSE        FALSE        FALSE        FALSE
## [451,] FALSE        FALSE        FALSE        FALSE        FALSE
## [452,] FALSE        FALSE        FALSE        FALSE        FALSE
## [453,] FALSE        FALSE        FALSE        FALSE        FALSE
## [454,] FALSE        FALSE        FALSE        FALSE        FALSE
## [455,] FALSE        FALSE        FALSE        FALSE        FALSE
## [456,] FALSE        FALSE        FALSE        FALSE        FALSE
## [457,] FALSE        FALSE        FALSE        FALSE        FALSE
## [458,] FALSE        FALSE        FALSE        FALSE        FALSE
## [459,] FALSE        FALSE        FALSE        FALSE        FALSE
## [460,] FALSE        FALSE        FALSE        FALSE        FALSE
## [461,] FALSE        FALSE        FALSE        FALSE        FALSE
## [462,] FALSE        FALSE        FALSE        FALSE        FALSE
## [463,] FALSE        FALSE        FALSE        FALSE        FALSE
## [464,] FALSE        FALSE        FALSE        FALSE        FALSE
## [465,] FALSE        FALSE        FALSE        FALSE        FALSE
## [466,] FALSE        FALSE        FALSE        FALSE        FALSE
## [467,] FALSE        FALSE        FALSE        FALSE        FALSE
## [468,] FALSE        FALSE        FALSE        FALSE        FALSE
## [469,] FALSE        FALSE        FALSE        FALSE        FALSE
## [470,] FALSE        FALSE        FALSE        FALSE        FALSE
## [471,] FALSE        FALSE        FALSE        FALSE        FALSE
## [472,] FALSE        FALSE        FALSE        FALSE        FALSE
## [473,] FALSE        FALSE        FALSE        FALSE        FALSE
## [474,] FALSE        FALSE        FALSE        FALSE        FALSE
## [475,] FALSE        FALSE        FALSE        FALSE        FALSE
## [476,] FALSE        FALSE        FALSE        FALSE        FALSE
## [477,] FALSE        FALSE        FALSE        FALSE        FALSE
## [478,] FALSE        FALSE        FALSE        FALSE        FALSE
## [479,] FALSE        FALSE        FALSE        FALSE        FALSE
## [480,] FALSE        FALSE        FALSE        FALSE        FALSE
## [481,] FALSE        FALSE        FALSE        FALSE        FALSE
## [482,] FALSE        FALSE        FALSE        FALSE        FALSE
## [483,] FALSE        FALSE        FALSE        FALSE        FALSE
## [484,] FALSE        FALSE        FALSE        FALSE        FALSE
## [485,] FALSE        FALSE        FALSE        FALSE        FALSE
## [486,] FALSE        FALSE        FALSE        FALSE        FALSE
## [487,] FALSE        FALSE        FALSE        FALSE        FALSE
## [488,] FALSE        FALSE        FALSE        FALSE        FALSE
## [489,] FALSE        FALSE        FALSE        FALSE        FALSE
## [490,] FALSE        FALSE        FALSE        FALSE        FALSE
## [491,] FALSE        FALSE        FALSE        FALSE        FALSE
## [492,] FALSE        FALSE        FALSE        FALSE        FALSE
## [493,] FALSE        FALSE        FALSE        FALSE        FALSE
## [494,] FALSE        FALSE        FALSE        FALSE        FALSE
```

```
## [495,] FALSE        FALSE        FALSE        FALSE        FALSE
## [496,] FALSE        FALSE        FALSE        FALSE        FALSE
## [497,] FALSE        FALSE        FALSE        FALSE        FALSE
## [498,] FALSE        FALSE        FALSE        FALSE        FALSE
## [499,] FALSE        FALSE        FALSE        FALSE        FALSE
## [500,] FALSE        FALSE        FALSE        FALSE        FALSE
## [501,] FALSE        FALSE        FALSE        FALSE        FALSE
## [502,] FALSE        FALSE        FALSE        FALSE        FALSE
## [503,] FALSE        FALSE        FALSE        FALSE        FALSE
## [504,] FALSE        FALSE        FALSE        FALSE        FALSE
## [505,] FALSE        FALSE        FALSE        FALSE        FALSE
## [506,] FALSE        FALSE        FALSE        FALSE        FALSE
## [507,] FALSE        FALSE        FALSE        FALSE        FALSE
## [508,] FALSE        FALSE        FALSE        FALSE        FALSE
## [509,] FALSE        FALSE        FALSE        FALSE        FALSE
## [510,] FALSE        FALSE        FALSE        FALSE        FALSE
## [511,] FALSE        FALSE        FALSE        FALSE        FALSE
## [512,] FALSE        FALSE        FALSE        FALSE        FALSE
## [513,] FALSE        FALSE        FALSE        FALSE        FALSE
## [514,] FALSE        FALSE        FALSE        FALSE        FALSE
## [515,] FALSE        FALSE        FALSE        FALSE        FALSE
## [516,] FALSE        FALSE        FALSE        FALSE        FALSE
## [517,] FALSE        FALSE        FALSE        FALSE        FALSE
## [518,] FALSE        FALSE        FALSE        FALSE        FALSE
## [519,] FALSE        FALSE        FALSE        FALSE        FALSE
## [520,] FALSE        FALSE        FALSE        FALSE        FALSE
## [521,] FALSE        FALSE        FALSE        FALSE        FALSE
## [522,] FALSE        FALSE        FALSE        FALSE        FALSE
## [523,] FALSE        FALSE        FALSE        FALSE        FALSE
## [524,] FALSE        FALSE        FALSE        FALSE        FALSE
## [525,] FALSE        FALSE        FALSE        FALSE        FALSE
## [526,] FALSE        FALSE        FALSE        FALSE        FALSE
## [527,] FALSE        FALSE        FALSE        FALSE        FALSE
## [528,] FALSE        FALSE        FALSE        FALSE        FALSE
## [529,] FALSE        FALSE        FALSE        FALSE        FALSE
## [530,] FALSE        FALSE        FALSE        FALSE        FALSE
## [531,] FALSE        FALSE        FALSE        FALSE        FALSE
## [532,] FALSE        FALSE        FALSE        FALSE        FALSE
## [533,] FALSE        FALSE        FALSE        FALSE        FALSE
## [534,] FALSE        FALSE        FALSE        FALSE        FALSE
## [535,] FALSE        FALSE        FALSE        FALSE        FALSE
## [536,] FALSE        FALSE        FALSE        FALSE        FALSE
## [537,] FALSE        FALSE        FALSE        FALSE        FALSE
## [538,] FALSE        FALSE        FALSE        FALSE        FALSE
## [539,] FALSE        FALSE        FALSE        FALSE        FALSE
## [540,] FALSE        FALSE        FALSE        FALSE        FALSE
## [541,] FALSE        FALSE        FALSE        FALSE        FALSE
## [542,] FALSE        FALSE        FALSE        FALSE        FALSE
## [543,] FALSE        FALSE        FALSE        FALSE        FALSE
## [544,] FALSE        FALSE        FALSE        FALSE        FALSE
```

```
## [545,] FALSE         FALSE         FALSE         FALSE         FALSE
## [546,] FALSE         FALSE         FALSE         FALSE         FALSE
## [547,] FALSE         FALSE         FALSE         FALSE         FALSE
## [548,] FALSE         FALSE         FALSE         FALSE         FALSE
## [549,] FALSE         FALSE         FALSE         FALSE         FALSE
## [550,] FALSE         FALSE         FALSE         FALSE         FALSE
## [551,] FALSE         FALSE         FALSE         FALSE         FALSE
## [552,] FALSE         FALSE         FALSE         FALSE         FALSE
## [553,] FALSE         FALSE         FALSE         FALSE         FALSE
## [554,] FALSE         FALSE         FALSE         FALSE         FALSE
## [555,] FALSE         FALSE         FALSE         FALSE         FALSE
## [556,] FALSE         FALSE         FALSE         FALSE         FALSE
## [557,] FALSE         FALSE         FALSE         FALSE         FALSE
## [558,] FALSE         FALSE         FALSE         FALSE         FALSE
## [559,] FALSE         FALSE         FALSE         FALSE         FALSE
## [560,] FALSE         FALSE         FALSE         FALSE         FALSE
## [561,] FALSE         FALSE         FALSE         FALSE         FALSE
## [562,] FALSE         FALSE         FALSE         FALSE         FALSE
## [563,] FALSE         FALSE         FALSE         FALSE         FALSE
## [564,] FALSE         FALSE         FALSE         FALSE         FALSE
## [565,] FALSE         FALSE         FALSE         FALSE         FALSE
## [566,] FALSE         FALSE         FALSE         FALSE         FALSE
## [567,] FALSE         FALSE         FALSE         FALSE         FALSE
## [568,] FALSE         FALSE         FALSE         FALSE         FALSE
## [569,] FALSE         FALSE         FALSE         FALSE         FALSE
## [570,] FALSE         FALSE         FALSE         FALSE         FALSE
## [571,] FALSE         FALSE         FALSE         FALSE         FALSE
## [572,] FALSE         FALSE         FALSE         FALSE         FALSE
## [573,] FALSE         FALSE         FALSE         FALSE         FALSE
## [574,] FALSE         FALSE         FALSE         FALSE         FALSE
## [575,] FALSE         FALSE         FALSE         FALSE         FALSE
## [576,] FALSE         FALSE         FALSE         FALSE         FALSE
## [577,] FALSE         FALSE         FALSE         FALSE         FALSE
## [578,] FALSE         FALSE         FALSE         FALSE         FALSE
## [579,] FALSE         FALSE         FALSE         FALSE         FALSE
## [580,] FALSE         FALSE         FALSE         FALSE         FALSE
## [581,] FALSE         FALSE         FALSE         FALSE         FALSE
## [582,] FALSE         FALSE         FALSE         FALSE         FALSE
## [583,] FALSE         FALSE         FALSE         FALSE         FALSE
## [584,] FALSE         FALSE         FALSE         FALSE         FALSE
## [585,] FALSE         FALSE         FALSE         FALSE         FALSE
## [586,] FALSE         FALSE         FALSE         FALSE         FALSE
## [587,] FALSE         FALSE         FALSE         FALSE         FALSE
## [588,] FALSE         FALSE         FALSE         FALSE         FALSE
## [589,] FALSE         FALSE         FALSE         FALSE         FALSE
## [590,] FALSE         FALSE         FALSE         FALSE         FALSE
## [591,] FALSE         FALSE         FALSE         FALSE         FALSE
## [592,] FALSE         FALSE         FALSE         FALSE         FALSE
## [593,] FALSE         FALSE         FALSE         FALSE         FALSE
## [594,] FALSE         FALSE         FALSE         FALSE         FALSE
```

```
## [595,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [596,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [597,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [598,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [599,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [600,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [601,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [602,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [603,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [604,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [605,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [606,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [607,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [608,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [609,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [610,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [611,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [612,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [613,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [614,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [615,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [616,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [617,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [618,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [619,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [620,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [621,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [622,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [623,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [624,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [625,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [626,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [627,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [628,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [629,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [630,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [631,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [632,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [633,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [634,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [635,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [636,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [637,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [638,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [639,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [640,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [641,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [642,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [643,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [644,]  FALSE        FALSE        FALSE        FALSE        FALSE
```

```
## [645,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [646,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [647,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [648,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [649,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [650,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [651,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [652,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [653,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [654,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [655,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [656,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [657,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [658,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [659,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [660,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [661,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [662,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [663,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [664,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [665,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [666,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [667,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [668,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [669,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [670,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [671,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [672,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [673,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [674,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [675,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [676,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [677,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [678,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [679,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [680,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [681,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [682,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [683,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [684,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [685,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [686,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [687,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [688,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [689,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [690,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [691,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [692,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [693,]  FALSE          FALSE          FALSE          FALSE          FALSE
## [694,]  FALSE          FALSE          FALSE          FALSE          FALSE
```

```
## [695,] FALSE        FALSE        FALSE        FALSE        FALSE
## [696,] FALSE        FALSE        FALSE        FALSE        FALSE
## [697,] FALSE        FALSE        FALSE        FALSE        FALSE
## [698,] FALSE        FALSE        FALSE        FALSE        FALSE
## [699,] FALSE        FALSE        FALSE        FALSE        FALSE
## [700,] FALSE        FALSE        FALSE        FALSE        FALSE
## [701,] FALSE        FALSE        FALSE        FALSE        FALSE
## [702,] FALSE        FALSE        FALSE        FALSE        FALSE
## [703,] FALSE        FALSE        FALSE        FALSE        FALSE
## [704,] FALSE        FALSE        FALSE        FALSE        FALSE
## [705,] FALSE        FALSE        FALSE        FALSE        FALSE
## [706,] FALSE        FALSE        FALSE        FALSE        FALSE
## [707,] FALSE        FALSE        FALSE        FALSE        FALSE
## [708,] FALSE        FALSE        FALSE        FALSE        FALSE
## [709,] FALSE        FALSE        FALSE        FALSE        FALSE
## [710,] FALSE        FALSE        FALSE        FALSE        FALSE
## [711,] FALSE        FALSE        FALSE        FALSE        FALSE
## [712,] FALSE        FALSE        FALSE        FALSE        FALSE
## [713,] FALSE        FALSE        FALSE        FALSE        FALSE
## [714,] FALSE        FALSE        FALSE        FALSE        FALSE
## [715,] FALSE        FALSE        FALSE        FALSE        FALSE
## [716,] FALSE        FALSE        FALSE        FALSE        FALSE
## [717,] FALSE        FALSE        FALSE        FALSE        FALSE
## [718,] FALSE        FALSE        FALSE        FALSE        FALSE
## [719,] FALSE        FALSE        FALSE        FALSE        FALSE
## [720,] FALSE        FALSE        FALSE        FALSE        FALSE
## [721,] FALSE        FALSE        FALSE        FALSE        FALSE
## [722,] FALSE        FALSE        FALSE        FALSE        FALSE
## [723,] FALSE        FALSE        FALSE        FALSE        FALSE
## [724,] FALSE        FALSE        FALSE        FALSE        FALSE
## [725,] FALSE        FALSE        FALSE        FALSE        FALSE
## [726,] FALSE        FALSE        FALSE        FALSE        FALSE
## [727,] FALSE        FALSE        FALSE        FALSE        FALSE
## [728,] FALSE        FALSE        FALSE        FALSE        FALSE
## [729,] FALSE        FALSE        FALSE        FALSE        FALSE
## [730,] FALSE        FALSE        FALSE        FALSE        FALSE
## [731,] FALSE        FALSE        FALSE        FALSE        FALSE
## [732,] FALSE        FALSE        FALSE        FALSE        FALSE
## [733,] FALSE        FALSE        FALSE        FALSE        FALSE
## [734,] FALSE        FALSE        FALSE        FALSE        FALSE
## [735,] FALSE        FALSE        FALSE        FALSE        FALSE
## [736,] FALSE        FALSE        FALSE        FALSE        FALSE
## [737,] FALSE        FALSE        FALSE        FALSE        FALSE
## [738,] FALSE        FALSE        FALSE        FALSE        FALSE
## [739,] FALSE        FALSE        FALSE        FALSE        FALSE
## [740,] FALSE        FALSE        FALSE        FALSE        FALSE
## [741,] FALSE        FALSE        FALSE        FALSE        FALSE
## [742,] FALSE        FALSE        FALSE        FALSE        FALSE
## [743,] FALSE        FALSE        FALSE        FALSE        FALSE
## [744,] FALSE        FALSE        FALSE        FALSE        FALSE
```

```
## [745,] FALSE       FALSE       FALSE       FALSE       FALSE
## [746,] FALSE       FALSE       FALSE       FALSE       FALSE
## [747,] FALSE       FALSE       FALSE       FALSE       FALSE
## [748,] FALSE       FALSE       FALSE       FALSE       FALSE
## [749,] FALSE       FALSE       FALSE       FALSE       FALSE
## [750,] FALSE       FALSE       FALSE       FALSE       FALSE
## [751,] FALSE       FALSE       FALSE       FALSE       FALSE
## [752,] FALSE       FALSE       FALSE       FALSE       FALSE
## [753,] FALSE       FALSE       FALSE       FALSE       FALSE
## [754,] FALSE       FALSE       FALSE       FALSE       FALSE
## [755,] FALSE       FALSE       FALSE       FALSE       FALSE
## [756,] FALSE       FALSE       FALSE       FALSE       FALSE
## [757,] FALSE       FALSE       FALSE       FALSE       FALSE
## [758,] FALSE       FALSE       FALSE       FALSE       FALSE
## [759,] FALSE       FALSE       FALSE       FALSE       FALSE
## [760,] FALSE       FALSE       FALSE       FALSE       FALSE
## [761,] FALSE       FALSE       FALSE       FALSE       FALSE
## [762,] FALSE       FALSE       FALSE       FALSE       FALSE
## [763,] FALSE       FALSE       FALSE       FALSE       FALSE
## [764,] FALSE       FALSE       FALSE       FALSE       FALSE
## [765,] FALSE       FALSE       FALSE       FALSE       FALSE
## [766,] FALSE       FALSE       FALSE       FALSE       FALSE
## [767,] FALSE       FALSE       FALSE       FALSE       FALSE
## [768,] FALSE       FALSE       FALSE       FALSE       FALSE
## [769,] FALSE       FALSE       FALSE       FALSE       FALSE
## [770,] FALSE       FALSE       FALSE       FALSE       FALSE
## [771,] FALSE       FALSE       FALSE       FALSE       FALSE
## [772,] FALSE       FALSE       FALSE       FALSE       FALSE
## [773,] FALSE       FALSE       FALSE       FALSE       FALSE
## [774,] FALSE       FALSE       FALSE       FALSE       FALSE
## [775,] FALSE       FALSE       FALSE       FALSE       FALSE
## [776,] FALSE       FALSE       FALSE       FALSE       FALSE
## [777,] FALSE       FALSE       FALSE       FALSE       FALSE
## [778,] FALSE       FALSE       FALSE       FALSE       FALSE
## [779,] FALSE       FALSE       FALSE       FALSE       FALSE
## [780,] FALSE       FALSE       FALSE       FALSE       FALSE
## [781,] FALSE       FALSE       FALSE       FALSE       FALSE
## [782,] FALSE       FALSE       FALSE       FALSE       FALSE
## [783,] FALSE       FALSE       FALSE       FALSE       FALSE
## [784,] FALSE       FALSE       FALSE       FALSE       FALSE
## [785,] FALSE       FALSE       FALSE       FALSE       FALSE
## [786,] FALSE       FALSE       FALSE       FALSE       FALSE
## [787,] FALSE       FALSE       FALSE       FALSE       FALSE
## [788,] FALSE       FALSE       FALSE       FALSE       FALSE
## [789,] FALSE       FALSE       FALSE       FALSE       FALSE
## [790,] FALSE       FALSE       FALSE       FALSE       FALSE
## [791,] FALSE       FALSE       FALSE       FALSE       FALSE
## [792,] FALSE       FALSE       FALSE       FALSE       FALSE
## [793,] FALSE       FALSE       FALSE       FALSE       FALSE
## [794,] FALSE       FALSE       FALSE       FALSE       FALSE
```

```
## [795,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [796,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [797,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [798,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [799,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [800,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [801,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [802,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [803,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [804,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [805,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [806,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [807,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [808,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [809,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [810,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [811,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [812,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [813,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [814,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [815,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [816,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [817,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [818,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [819,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [820,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [821,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [822,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [823,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [824,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [825,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [826,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [827,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [828,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [829,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [830,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [831,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [832,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [833,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [834,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [835,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [836,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [837,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [838,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [839,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [840,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [841,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [842,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [843,]  FALSE        FALSE        FALSE        FALSE        FALSE
## [844,]  FALSE        FALSE        FALSE        FALSE        FALSE
```

```
## [845,] FALSE      FALSE      FALSE      FALSE      FALSE
## [846,] FALSE      FALSE      FALSE      FALSE      FALSE
## [847,] FALSE      FALSE      FALSE      FALSE      FALSE
## [848,] FALSE      FALSE      FALSE      FALSE      FALSE
## [849,] FALSE      FALSE      FALSE      FALSE      FALSE
## [850,] FALSE      FALSE      FALSE      FALSE      FALSE
## [851,] FALSE      FALSE      FALSE      FALSE      FALSE
## [852,] FALSE      FALSE      FALSE      FALSE      FALSE
## [853,] FALSE      FALSE      FALSE      FALSE      FALSE
## [854,] FALSE      FALSE      FALSE      FALSE      FALSE
## [855,] FALSE      FALSE      FALSE      FALSE      FALSE
## [856,] FALSE      FALSE      FALSE      FALSE      FALSE
## [857,] FALSE      FALSE      FALSE      FALSE      FALSE
## [858,] FALSE      FALSE      FALSE      FALSE      FALSE
## [859,] FALSE      FALSE      FALSE      FALSE      FALSE
## [860,] FALSE      FALSE      FALSE      FALSE      FALSE
## [861,] FALSE      FALSE      FALSE      FALSE      FALSE
## [862,] FALSE      FALSE      FALSE      FALSE      FALSE
## [863,] FALSE      FALSE      FALSE      FALSE      FALSE
## [864,] FALSE      FALSE      FALSE      FALSE      FALSE
## [865,] FALSE      FALSE      FALSE      FALSE      FALSE
## [866,] FALSE      FALSE      FALSE      FALSE      FALSE
## [867,] FALSE      FALSE      FALSE      FALSE      FALSE
## [868,] FALSE      FALSE      FALSE      FALSE      FALSE
## [869,] FALSE      FALSE      FALSE      FALSE      FALSE
## [870,] FALSE      FALSE      FALSE      FALSE      FALSE
## [871,] FALSE      FALSE      FALSE      FALSE      FALSE
## [872,] FALSE      FALSE      FALSE      FALSE      FALSE
## [873,] FALSE      FALSE      FALSE      FALSE      FALSE
## [874,] FALSE      FALSE      FALSE      FALSE      FALSE
## [875,] FALSE      FALSE      FALSE      FALSE      FALSE
## [876,] FALSE      FALSE      FALSE      FALSE      FALSE
## [877,] FALSE      FALSE      FALSE      FALSE      FALSE
## [878,] FALSE      FALSE      FALSE      FALSE      FALSE
## [879,] FALSE      FALSE      FALSE      FALSE      FALSE
## [880,] FALSE      FALSE      FALSE      FALSE      FALSE
## [881,] FALSE      FALSE      FALSE      FALSE      FALSE
## [882,] FALSE      FALSE      FALSE      FALSE      FALSE
## [883,] FALSE      FALSE      FALSE      FALSE      FALSE
## [884,] FALSE      FALSE      FALSE      FALSE      FALSE
## [885,] FALSE      FALSE      FALSE      FALSE      FALSE
## [886,] FALSE      FALSE      FALSE      FALSE      FALSE
## [887,] FALSE      FALSE      FALSE      FALSE      FALSE
## [888,] FALSE      FALSE      FALSE      FALSE      FALSE
## [889,] FALSE      FALSE      FALSE      FALSE      FALSE
## [890,] FALSE      FALSE      FALSE      FALSE      FALSE
## [891,] FALSE      FALSE      FALSE      FALSE      FALSE
## [892,] FALSE      FALSE      FALSE      FALSE      FALSE
## [893,] FALSE      FALSE      FALSE      FALSE      FALSE
## [894,] FALSE      FALSE      FALSE      FALSE      FALSE
```

```
## [895,] FALSE          FALSE          FALSE          FALSE          FALSE
## [896,] FALSE          FALSE          FALSE          FALSE          FALSE
## [897,] FALSE          FALSE          FALSE          FALSE          FALSE
## [898,] FALSE          FALSE          FALSE          FALSE          FALSE
## [899,] FALSE          FALSE          FALSE          FALSE          FALSE
## [900,] FALSE          FALSE          FALSE          FALSE          FALSE
## [901,] FALSE          FALSE          FALSE          FALSE          FALSE
## [902,] FALSE          FALSE          FALSE          FALSE          FALSE
## [903,] FALSE          FALSE          FALSE          FALSE          FALSE
## [904,] FALSE          FALSE          FALSE          FALSE          FALSE
## [905,] FALSE          FALSE          FALSE          FALSE          FALSE
## [906,] FALSE          FALSE          FALSE          FALSE          FALSE
## [907,] FALSE          FALSE          FALSE          FALSE          FALSE
## [908,] FALSE          FALSE          FALSE          FALSE          FALSE
## [909,] FALSE          FALSE          FALSE          FALSE          FALSE
## [910,] FALSE          FALSE          FALSE          FALSE          FALSE
## [911,] FALSE          FALSE          FALSE          FALSE          FALSE
## [912,] FALSE          FALSE          FALSE          FALSE          FALSE
## [913,] FALSE          FALSE          FALSE          FALSE          FALSE
## [914,] FALSE          FALSE          FALSE          FALSE          FALSE
## [915,] FALSE          FALSE          FALSE          FALSE          FALSE
## [916,] FALSE          FALSE          FALSE          FALSE          FALSE
## [917,] FALSE          FALSE          FALSE          FALSE          FALSE
## [918,] FALSE          FALSE          FALSE          FALSE          FALSE
## [919,] FALSE          FALSE          FALSE          FALSE          FALSE
## [920,] FALSE          FALSE          FALSE          FALSE          FALSE
## [921,] FALSE          FALSE          FALSE          FALSE          FALSE
## [922,] FALSE          FALSE          FALSE          FALSE          FALSE
## [923,] FALSE          FALSE          FALSE          FALSE          FALSE
## [924,] FALSE          FALSE          FALSE          FALSE          FALSE
## [925,] FALSE          FALSE          FALSE          FALSE          FALSE
## [926,] FALSE          FALSE          FALSE          FALSE          FALSE
## [927,] FALSE          FALSE          FALSE          FALSE          FALSE
## [928,] FALSE          FALSE          FALSE          FALSE          FALSE
## [929,] FALSE          FALSE          FALSE          FALSE          FALSE
## [930,] FALSE          FALSE          FALSE          FALSE          FALSE
## [931,] FALSE          FALSE          FALSE          FALSE          FALSE
## [932,] FALSE          FALSE          FALSE          FALSE          FALSE
## [933,] FALSE          FALSE          FALSE          FALSE          FALSE
## [934,] FALSE          FALSE          FALSE          FALSE          FALSE
## [935,] FALSE          FALSE          FALSE          FALSE          FALSE
## [936,] FALSE          FALSE          FALSE          FALSE          FALSE
## [937,] FALSE          FALSE          FALSE          FALSE          FALSE
## [938,] FALSE          FALSE          FALSE          FALSE          FALSE
## [939,] FALSE          FALSE          FALSE          FALSE          FALSE
## [940,] FALSE          FALSE          FALSE          FALSE          FALSE
##        LoggedActivitiesDistance VeryActiveDistance
ModeratelyActiveDistance
##   [1,]                    FALSE              FALSE
FALSE
```

```
##  [2,]                    FALSE             FALSE
FALSE
##  [3,]                    FALSE             FALSE
FALSE
##  [4,]                    FALSE             FALSE
FALSE
##  [5,]                    FALSE             FALSE
FALSE
##  [6,]                    FALSE             FALSE
FALSE
##  [7,]                    FALSE             FALSE
FALSE
##  [8,]                    FALSE             FALSE
FALSE
##  [9,]                    FALSE             FALSE
FALSE
## [10,]                    FALSE             FALSE
FALSE
## [11,]                    FALSE             FALSE
FALSE
## [12,]                    FALSE             FALSE
FALSE
## [13,]                    FALSE             FALSE
FALSE
## [14,]                    FALSE             FALSE
FALSE
## [15,]                    FALSE             FALSE
FALSE
## [16,]                    FALSE             FALSE
FALSE
## [17,]                    FALSE             FALSE
FALSE
## [18,]                    FALSE             FALSE
FALSE
## [19,]                    FALSE             FALSE
FALSE
## [20,]                    FALSE             FALSE
FALSE
## [21,]                    FALSE             FALSE
FALSE
## [22,]                    FALSE             FALSE
FALSE
## [23,]                    FALSE             FALSE
FALSE
## [24,]                    FALSE             FALSE
FALSE
## [25,]                    FALSE             FALSE
FALSE
## [26,]                    FALSE             FALSE
FALSE
```

```
##  [27,]                    FALSE              FALSE
FALSE
##  [28,]                    FALSE              FALSE
FALSE
##  [29,]                    FALSE              FALSE
FALSE
##  [30,]                    FALSE              FALSE
FALSE
##  [31,]                    FALSE              FALSE
FALSE
##  [32,]                    FALSE              FALSE
FALSE
##  [33,]                    FALSE              FALSE
FALSE
##  [34,]                    FALSE              FALSE
FALSE
##  [35,]                    FALSE              FALSE
FALSE
##  [36,]                    FALSE              FALSE
FALSE
##  [37,]                    FALSE              FALSE
FALSE
##  [38,]                    FALSE              FALSE
FALSE
##  [39,]                    FALSE              FALSE
FALSE
##  [40,]                    FALSE              FALSE
FALSE
##  [41,]                    FALSE              FALSE
FALSE
##  [42,]                    FALSE              FALSE
FALSE
##  [43,]                    FALSE              FALSE
FALSE
##  [44,]                    FALSE              FALSE
FALSE
##  [45,]                    FALSE              FALSE
FALSE
##  [46,]                    FALSE              FALSE
FALSE
##  [47,]                    FALSE              FALSE
FALSE
##  [48,]                    FALSE              FALSE
FALSE
##  [49,]                    FALSE              FALSE
FALSE
##  [50,]                    FALSE              FALSE
FALSE
##  [51,]                    FALSE              FALSE
FALSE
```

```
## [52,]              FALSE              FALSE
FALSE
## [53,]              FALSE              FALSE
FALSE
## [54,]              FALSE              FALSE
FALSE
## [55,]              FALSE              FALSE
FALSE
## [56,]              FALSE              FALSE
FALSE
## [57,]              FALSE              FALSE
FALSE
## [58,]              FALSE              FALSE
FALSE
## [59,]              FALSE              FALSE
FALSE
## [60,]              FALSE              FALSE
FALSE
## [61,]              FALSE              FALSE
FALSE
## [62,]              FALSE              FALSE
FALSE
## [63,]              FALSE              FALSE
FALSE
## [64,]              FALSE              FALSE
FALSE
## [65,]              FALSE              FALSE
FALSE
## [66,]              FALSE              FALSE
FALSE
## [67,]              FALSE              FALSE
FALSE
## [68,]              FALSE              FALSE
FALSE
## [69,]              FALSE              FALSE
FALSE
## [70,]              FALSE              FALSE
FALSE
## [71,]              FALSE              FALSE
FALSE
## [72,]              FALSE              FALSE
FALSE
## [73,]              FALSE              FALSE
FALSE
## [74,]              FALSE              FALSE
FALSE
## [75,]              FALSE              FALSE
FALSE
## [76,]              FALSE              FALSE
FALSE
```

```
##  [77,]              FALSE          FALSE
FALSE
##  [78,]              FALSE          FALSE
FALSE
##  [79,]              FALSE          FALSE
FALSE
##  [80,]              FALSE          FALSE
FALSE
##  [81,]              FALSE          FALSE
FALSE
##  [82,]              FALSE          FALSE
FALSE
##  [83,]              FALSE          FALSE
FALSE
##  [84,]              FALSE          FALSE
FALSE
##  [85,]              FALSE          FALSE
FALSE
##  [86,]              FALSE          FALSE
FALSE
##  [87,]              FALSE          FALSE
FALSE
##  [88,]              FALSE          FALSE
FALSE
##  [89,]              FALSE          FALSE
FALSE
##  [90,]              FALSE          FALSE
FALSE
##  [91,]              FALSE          FALSE
FALSE
##  [92,]              FALSE          FALSE
FALSE
##  [93,]              FALSE          FALSE
FALSE
##  [94,]              FALSE          FALSE
FALSE
##  [95,]              FALSE          FALSE
FALSE
##  [96,]              FALSE          FALSE
FALSE
##  [97,]              FALSE          FALSE
FALSE
##  [98,]              FALSE          FALSE
FALSE
##  [99,]              FALSE          FALSE
FALSE
## [100,]              FALSE          FALSE
FALSE
## [101,]              FALSE          FALSE
FALSE
```

```
## [102,]                FALSE           FALSE
FALSE
## [103,]                FALSE           FALSE
FALSE
## [104,]                FALSE           FALSE
FALSE
## [105,]                FALSE           FALSE
FALSE
## [106,]                FALSE           FALSE
FALSE
## [107,]                FALSE           FALSE
FALSE
## [108,]                FALSE           FALSE
FALSE
## [109,]                FALSE           FALSE
FALSE
## [110,]                FALSE           FALSE
FALSE
## [111,]                FALSE           FALSE
FALSE
## [112,]                FALSE           FALSE
FALSE
## [113,]                FALSE           FALSE
FALSE
## [114,]                FALSE           FALSE
FALSE
## [115,]                FALSE           FALSE
FALSE
## [116,]                FALSE           FALSE
FALSE
## [117,]                FALSE           FALSE
FALSE
## [118,]                FALSE           FALSE
FALSE
## [119,]                FALSE           FALSE
FALSE
## [120,]                FALSE           FALSE
FALSE
## [121,]                FALSE           FALSE
FALSE
## [122,]                FALSE           FALSE
FALSE
## [123,]                FALSE           FALSE
FALSE
## [124,]                FALSE           FALSE
FALSE
## [125,]                FALSE           FALSE
FALSE
## [126,]                FALSE           FALSE
FALSE
```

```
## [127,]              FALSE              FALSE
FALSE
## [128,]              FALSE              FALSE
FALSE
## [129,]              FALSE              FALSE
FALSE
## [130,]              FALSE              FALSE
FALSE
## [131,]              FALSE              FALSE
FALSE
## [132,]              FALSE              FALSE
FALSE
## [133,]              FALSE              FALSE
FALSE
## [134,]              FALSE              FALSE
FALSE
## [135,]              FALSE              FALSE
FALSE
## [136,]              FALSE              FALSE
FALSE
## [137,]              FALSE              FALSE
FALSE
## [138,]              FALSE              FALSE
FALSE
## [139,]              FALSE              FALSE
FALSE
## [140,]              FALSE              FALSE
FALSE
## [141,]              FALSE              FALSE
FALSE
## [142,]              FALSE              FALSE
FALSE
## [143,]              FALSE              FALSE
FALSE
## [144,]              FALSE              FALSE
FALSE
## [145,]              FALSE              FALSE
FALSE
## [146,]              FALSE              FALSE
FALSE
## [147,]              FALSE              FALSE
FALSE
## [148,]              FALSE              FALSE
FALSE
## [149,]              FALSE              FALSE
FALSE
## [150,]              FALSE              FALSE
FALSE
## [151,]              FALSE              FALSE
FALSE
```

```
## [152,]             FALSE         FALSE
FALSE
## [153,]             FALSE         FALSE
FALSE
## [154,]             FALSE         FALSE
FALSE
## [155,]             FALSE         FALSE
FALSE
## [156,]             FALSE         FALSE
FALSE
## [157,]             FALSE         FALSE
FALSE
## [158,]             FALSE         FALSE
FALSE
## [159,]             FALSE         FALSE
FALSE
## [160,]             FALSE         FALSE
FALSE
## [161,]             FALSE         FALSE
FALSE
## [162,]             FALSE         FALSE
FALSE
## [163,]             FALSE         FALSE
FALSE
## [164,]             FALSE         FALSE
FALSE
## [165,]             FALSE         FALSE
FALSE
## [166,]             FALSE         FALSE
FALSE
## [167,]             FALSE         FALSE
FALSE
## [168,]             FALSE         FALSE
FALSE
## [169,]             FALSE         FALSE
FALSE
## [170,]             FALSE         FALSE
FALSE
## [171,]             FALSE         FALSE
FALSE
## [172,]             FALSE         FALSE
FALSE
## [173,]             FALSE         FALSE
FALSE
## [174,]             FALSE         FALSE
FALSE
## [175,]             FALSE         FALSE
FALSE
## [176,]             FALSE         FALSE
FALSE
```

```
## [177,]              FALSE          FALSE
FALSE
## [178,]              FALSE          FALSE
FALSE
## [179,]              FALSE          FALSE
FALSE
## [180,]              FALSE          FALSE
FALSE
## [181,]              FALSE          FALSE
FALSE
## [182,]              FALSE          FALSE
FALSE
## [183,]              FALSE          FALSE
FALSE
## [184,]              FALSE          FALSE
FALSE
## [185,]              FALSE          FALSE
FALSE
## [186,]              FALSE          FALSE
FALSE
## [187,]              FALSE          FALSE
FALSE
## [188,]              FALSE          FALSE
FALSE
## [189,]              FALSE          FALSE
FALSE
## [190,]              FALSE          FALSE
FALSE
## [191,]              FALSE          FALSE
FALSE
## [192,]              FALSE          FALSE
FALSE
## [193,]              FALSE          FALSE
FALSE
## [194,]              FALSE          FALSE
FALSE
## [195,]              FALSE          FALSE
FALSE
## [196,]              FALSE          FALSE
FALSE
## [197,]              FALSE          FALSE
FALSE
## [198,]              FALSE          FALSE
FALSE
## [199,]              FALSE          FALSE
FALSE
## [200,]              FALSE          FALSE
FALSE
## [201,]              FALSE          FALSE
FALSE
```

```
## [202,]                FALSE              FALSE
FALSE
## [203,]                FALSE              FALSE
FALSE
## [204,]                FALSE              FALSE
FALSE
## [205,]                FALSE              FALSE
FALSE
## [206,]                FALSE              FALSE
FALSE
## [207,]                FALSE              FALSE
FALSE
## [208,]                FALSE              FALSE
FALSE
## [209,]                FALSE              FALSE
FALSE
## [210,]                FALSE              FALSE
FALSE
## [211,]                FALSE              FALSE
FALSE
## [212,]                FALSE              FALSE
FALSE
## [213,]                FALSE              FALSE
FALSE
## [214,]                FALSE              FALSE
FALSE
## [215,]                FALSE              FALSE
FALSE
## [216,]                FALSE              FALSE
FALSE
## [217,]                FALSE              FALSE
FALSE
## [218,]                FALSE              FALSE
FALSE
## [219,]                FALSE              FALSE
FALSE
## [220,]                FALSE              FALSE
FALSE
## [221,]                FALSE              FALSE
FALSE
## [222,]                FALSE              FALSE
FALSE
## [223,]                FALSE              FALSE
FALSE
## [224,]                FALSE              FALSE
FALSE
## [225,]                FALSE              FALSE
FALSE
## [226,]                FALSE              FALSE
FALSE
```

```
## [227,]              FALSE          FALSE
FALSE
## [228,]              FALSE          FALSE
FALSE
## [229,]              FALSE          FALSE
FALSE
## [230,]              FALSE          FALSE
FALSE
## [231,]              FALSE          FALSE
FALSE
## [232,]              FALSE          FALSE
FALSE
## [233,]              FALSE          FALSE
FALSE
## [234,]              FALSE          FALSE
FALSE
## [235,]              FALSE          FALSE
FALSE
## [236,]              FALSE          FALSE
FALSE
## [237,]              FALSE          FALSE
FALSE
## [238,]              FALSE          FALSE
FALSE
## [239,]              FALSE          FALSE
FALSE
## [240,]              FALSE          FALSE
FALSE
## [241,]              FALSE          FALSE
FALSE
## [242,]              FALSE          FALSE
FALSE
## [243,]              FALSE          FALSE
FALSE
## [244,]              FALSE          FALSE
FALSE
## [245,]              FALSE          FALSE
FALSE
## [246,]              FALSE          FALSE
FALSE
## [247,]              FALSE          FALSE
FALSE
## [248,]              FALSE          FALSE
FALSE
## [249,]              FALSE          FALSE
FALSE
## [250,]              FALSE          FALSE
FALSE
## [251,]              FALSE          FALSE
FALSE
```

```
## [252,]              FALSE              FALSE
FALSE
## [253,]              FALSE              FALSE
FALSE
## [254,]              FALSE              FALSE
FALSE
## [255,]              FALSE              FALSE
FALSE
## [256,]              FALSE              FALSE
FALSE
## [257,]              FALSE              FALSE
FALSE
## [258,]              FALSE              FALSE
FALSE
## [259,]              FALSE              FALSE
FALSE
## [260,]              FALSE              FALSE
FALSE
## [261,]              FALSE              FALSE
FALSE
## [262,]              FALSE              FALSE
FALSE
## [263,]              FALSE              FALSE
FALSE
## [264,]              FALSE              FALSE
FALSE
## [265,]              FALSE              FALSE
FALSE
## [266,]              FALSE              FALSE
FALSE
## [267,]              FALSE              FALSE
FALSE
## [268,]              FALSE              FALSE
FALSE
## [269,]              FALSE              FALSE
FALSE
## [270,]              FALSE              FALSE
FALSE
## [271,]              FALSE              FALSE
FALSE
## [272,]              FALSE              FALSE
FALSE
## [273,]              FALSE              FALSE
FALSE
## [274,]              FALSE              FALSE
FALSE
## [275,]              FALSE              FALSE
FALSE
## [276,]              FALSE              FALSE
FALSE
```

```
## [277,]              FALSE              FALSE
FALSE
## [278,]              FALSE              FALSE
FALSE
## [279,]              FALSE              FALSE
FALSE
## [280,]              FALSE              FALSE
FALSE
## [281,]              FALSE              FALSE
FALSE
## [282,]              FALSE              FALSE
FALSE
## [283,]              FALSE              FALSE
FALSE
## [284,]              FALSE              FALSE
FALSE
## [285,]              FALSE              FALSE
FALSE
## [286,]              FALSE              FALSE
FALSE
## [287,]              FALSE              FALSE
FALSE
## [288,]              FALSE              FALSE
FALSE
## [289,]              FALSE              FALSE
FALSE
## [290,]              FALSE              FALSE
FALSE
## [291,]              FALSE              FALSE
FALSE
## [292,]              FALSE              FALSE
FALSE
## [293,]              FALSE              FALSE
FALSE
## [294,]              FALSE              FALSE
FALSE
## [295,]              FALSE              FALSE
FALSE
## [296,]              FALSE              FALSE
FALSE
## [297,]              FALSE              FALSE
FALSE
## [298,]              FALSE              FALSE
FALSE
## [299,]              FALSE              FALSE
FALSE
## [300,]              FALSE              FALSE
FALSE
## [301,]              FALSE              FALSE
FALSE
```

```
## [302,]                FALSE              FALSE
FALSE
## [303,]                FALSE              FALSE
FALSE
## [304,]                FALSE              FALSE
FALSE
## [305,]                FALSE              FALSE
FALSE
## [306,]                FALSE              FALSE
FALSE
## [307,]                FALSE              FALSE
FALSE
## [308,]                FALSE              FALSE
FALSE
## [309,]                FALSE              FALSE
FALSE
## [310,]                FALSE              FALSE
FALSE
## [311,]                FALSE              FALSE
FALSE
## [312,]                FALSE              FALSE
FALSE
## [313,]                FALSE              FALSE
FALSE
## [314,]                FALSE              FALSE
FALSE
## [315,]                FALSE              FALSE
FALSE
## [316,]                FALSE              FALSE
FALSE
## [317,]                FALSE              FALSE
FALSE
## [318,]                FALSE              FALSE
FALSE
## [319,]                FALSE              FALSE
FALSE
## [320,]                FALSE              FALSE
FALSE
## [321,]                FALSE              FALSE
FALSE
## [322,]                FALSE              FALSE
FALSE
## [323,]                FALSE              FALSE
FALSE
## [324,]                FALSE              FALSE
FALSE
## [325,]                FALSE              FALSE
FALSE
## [326,]                FALSE              FALSE
FALSE
```

```
## [327,]                    FALSE                FALSE
FALSE
## [328,]                    FALSE                FALSE
FALSE
## [329,]                    FALSE                FALSE
FALSE
## [330,]                    FALSE                FALSE
FALSE
## [331,]                    FALSE                FALSE
FALSE
## [332,]                    FALSE                FALSE
FALSE
## [333,]                    FALSE                FALSE
FALSE
## [334,]                    FALSE                FALSE
FALSE
## [335,]                    FALSE                FALSE
FALSE
## [336,]                    FALSE                FALSE
FALSE
## [337,]                    FALSE                FALSE
FALSE
## [338,]                    FALSE                FALSE
FALSE
## [339,]                    FALSE                FALSE
FALSE
## [340,]                    FALSE                FALSE
FALSE
## [341,]                    FALSE                FALSE
FALSE
## [342,]                    FALSE                FALSE
FALSE
## [343,]                    FALSE                FALSE
FALSE
## [344,]                    FALSE                FALSE
FALSE
## [345,]                    FALSE                FALSE
FALSE
## [346,]                    FALSE                FALSE
FALSE
## [347,]                    FALSE                FALSE
FALSE
## [348,]                    FALSE                FALSE
FALSE
## [349,]                    FALSE                FALSE
FALSE
## [350,]                    FALSE                FALSE
FALSE
## [351,]                    FALSE                FALSE
FALSE
```

```
## [352,]            FALSE            FALSE
FALSE
## [353,]            FALSE            FALSE
FALSE
## [354,]            FALSE            FALSE
FALSE
## [355,]            FALSE            FALSE
FALSE
## [356,]            FALSE            FALSE
FALSE
## [357,]            FALSE            FALSE
FALSE
## [358,]            FALSE            FALSE
FALSE
## [359,]            FALSE            FALSE
FALSE
## [360,]            FALSE            FALSE
FALSE
## [361,]            FALSE            FALSE
FALSE
## [362,]            FALSE            FALSE
FALSE
## [363,]            FALSE            FALSE
FALSE
## [364,]            FALSE            FALSE
FALSE
## [365,]            FALSE            FALSE
FALSE
## [366,]            FALSE            FALSE
FALSE
## [367,]            FALSE            FALSE
FALSE
## [368,]            FALSE            FALSE
FALSE
## [369,]            FALSE            FALSE
FALSE
## [370,]            FALSE            FALSE
FALSE
## [371,]            FALSE            FALSE
FALSE
## [372,]            FALSE            FALSE
FALSE
## [373,]            FALSE            FALSE
FALSE
## [374,]            FALSE            FALSE
FALSE
## [375,]            FALSE            FALSE
FALSE
## [376,]            FALSE            FALSE
FALSE
```

```
## [377,]              FALSE              FALSE
FALSE
## [378,]              FALSE              FALSE
FALSE
## [379,]              FALSE              FALSE
FALSE
## [380,]              FALSE              FALSE
FALSE
## [381,]              FALSE              FALSE
FALSE
## [382,]              FALSE              FALSE
FALSE
## [383,]              FALSE              FALSE
FALSE
## [384,]              FALSE              FALSE
FALSE
## [385,]              FALSE              FALSE
FALSE
## [386,]              FALSE              FALSE
FALSE
## [387,]              FALSE              FALSE
FALSE
## [388,]              FALSE              FALSE
FALSE
## [389,]              FALSE              FALSE
FALSE
## [390,]              FALSE              FALSE
FALSE
## [391,]              FALSE              FALSE
FALSE
## [392,]              FALSE              FALSE
FALSE
## [393,]              FALSE              FALSE
FALSE
## [394,]              FALSE              FALSE
FALSE
## [395,]              FALSE              FALSE
FALSE
## [396,]              FALSE              FALSE
FALSE
## [397,]              FALSE              FALSE
FALSE
## [398,]              FALSE              FALSE
FALSE
## [399,]              FALSE              FALSE
FALSE
## [400,]              FALSE              FALSE
FALSE
## [401,]              FALSE              FALSE
FALSE
```

```
## [402,]           FALSE           FALSE
FALSE
## [403,]           FALSE           FALSE
FALSE
## [404,]           FALSE           FALSE
FALSE
## [405,]           FALSE           FALSE
FALSE
## [406,]           FALSE           FALSE
FALSE
## [407,]           FALSE           FALSE
FALSE
## [408,]           FALSE           FALSE
FALSE
## [409,]           FALSE           FALSE
FALSE
## [410,]           FALSE           FALSE
FALSE
## [411,]           FALSE           FALSE
FALSE
## [412,]           FALSE           FALSE
FALSE
## [413,]           FALSE           FALSE
FALSE
## [414,]           FALSE           FALSE
FALSE
## [415,]           FALSE           FALSE
FALSE
## [416,]           FALSE           FALSE
FALSE
## [417,]           FALSE           FALSE
FALSE
## [418,]           FALSE           FALSE
FALSE
## [419,]           FALSE           FALSE
FALSE
## [420,]           FALSE           FALSE
FALSE
## [421,]           FALSE           FALSE
FALSE
## [422,]           FALSE           FALSE
FALSE
## [423,]           FALSE           FALSE
FALSE
## [424,]           FALSE           FALSE
FALSE
## [425,]           FALSE           FALSE
FALSE
## [426,]           FALSE           FALSE
FALSE
```

```
## [427,]            FALSE          FALSE
FALSE
## [428,]            FALSE          FALSE
FALSE
## [429,]            FALSE          FALSE
FALSE
## [430,]            FALSE          FALSE
FALSE
## [431,]            FALSE          FALSE
FALSE
## [432,]            FALSE          FALSE
FALSE
## [433,]            FALSE          FALSE
FALSE
## [434,]            FALSE          FALSE
FALSE
## [435,]            FALSE          FALSE
FALSE
## [436,]            FALSE          FALSE
FALSE
## [437,]            FALSE          FALSE
FALSE
## [438,]            FALSE          FALSE
FALSE
## [439,]            FALSE          FALSE
FALSE
## [440,]            FALSE          FALSE
FALSE
## [441,]            FALSE          FALSE
FALSE
## [442,]            FALSE          FALSE
FALSE
## [443,]            FALSE          FALSE
FALSE
## [444,]            FALSE          FALSE
FALSE
## [445,]            FALSE          FALSE
FALSE
## [446,]            FALSE          FALSE
FALSE
## [447,]            FALSE          FALSE
FALSE
## [448,]            FALSE          FALSE
FALSE
## [449,]            FALSE          FALSE
FALSE
## [450,]            FALSE          FALSE
FALSE
## [451,]            FALSE          FALSE
FALSE
```

```
## [452,]              FALSE          FALSE
FALSE
## [453,]              FALSE          FALSE
FALSE
## [454,]              FALSE          FALSE
FALSE
## [455,]              FALSE          FALSE
FALSE
## [456,]              FALSE          FALSE
FALSE
## [457,]              FALSE          FALSE
FALSE
## [458,]              FALSE          FALSE
FALSE
## [459,]              FALSE          FALSE
FALSE
## [460,]              FALSE          FALSE
FALSE
## [461,]              FALSE          FALSE
FALSE
## [462,]              FALSE          FALSE
FALSE
## [463,]              FALSE          FALSE
FALSE
## [464,]              FALSE          FALSE
FALSE
## [465,]              FALSE          FALSE
FALSE
## [466,]              FALSE          FALSE
FALSE
## [467,]              FALSE          FALSE
FALSE
## [468,]              FALSE          FALSE
FALSE
## [469,]              FALSE          FALSE
FALSE
## [470,]              FALSE          FALSE
FALSE
## [471,]              FALSE          FALSE
FALSE
## [472,]              FALSE          FALSE
FALSE
## [473,]              FALSE          FALSE
FALSE
## [474,]              FALSE          FALSE
FALSE
## [475,]              FALSE          FALSE
FALSE
## [476,]              FALSE          FALSE
FALSE
```

```
## [477,]               FALSE              FALSE
FALSE
## [478,]               FALSE              FALSE
FALSE
## [479,]               FALSE              FALSE
FALSE
## [480,]               FALSE              FALSE
FALSE
## [481,]               FALSE              FALSE
FALSE
## [482,]               FALSE              FALSE
FALSE
## [483,]               FALSE              FALSE
FALSE
## [484,]               FALSE              FALSE
FALSE
## [485,]               FALSE              FALSE
FALSE
## [486,]               FALSE              FALSE
FALSE
## [487,]               FALSE              FALSE
FALSE
## [488,]               FALSE              FALSE
FALSE
## [489,]               FALSE              FALSE
FALSE
## [490,]               FALSE              FALSE
FALSE
## [491,]               FALSE              FALSE
FALSE
## [492,]               FALSE              FALSE
FALSE
## [493,]               FALSE              FALSE
FALSE
## [494,]               FALSE              FALSE
FALSE
## [495,]               FALSE              FALSE
FALSE
## [496,]               FALSE              FALSE
FALSE
## [497,]               FALSE              FALSE
FALSE
## [498,]               FALSE              FALSE
FALSE
## [499,]               FALSE              FALSE
FALSE
## [500,]               FALSE              FALSE
FALSE
## [501,]               FALSE              FALSE
FALSE
```

```
## [502,]              FALSE              FALSE
FALSE
## [503,]              FALSE              FALSE
FALSE
## [504,]              FALSE              FALSE
FALSE
## [505,]              FALSE              FALSE
FALSE
## [506,]              FALSE              FALSE
FALSE
## [507,]              FALSE              FALSE
FALSE
## [508,]              FALSE              FALSE
FALSE
## [509,]              FALSE              FALSE
FALSE
## [510,]              FALSE              FALSE
FALSE
## [511,]              FALSE              FALSE
FALSE
## [512,]              FALSE              FALSE
FALSE
## [513,]              FALSE              FALSE
FALSE
## [514,]              FALSE              FALSE
FALSE
## [515,]              FALSE              FALSE
FALSE
## [516,]              FALSE              FALSE
FALSE
## [517,]              FALSE              FALSE
FALSE
## [518,]              FALSE              FALSE
FALSE
## [519,]              FALSE              FALSE
FALSE
## [520,]              FALSE              FALSE
FALSE
## [521,]              FALSE              FALSE
FALSE
## [522,]              FALSE              FALSE
FALSE
## [523,]              FALSE              FALSE
FALSE
## [524,]              FALSE              FALSE
FALSE
## [525,]              FALSE              FALSE
FALSE
## [526,]              FALSE              FALSE
FALSE
```

```
## [527,]              FALSE              FALSE
FALSE
## [528,]              FALSE              FALSE
FALSE
## [529,]              FALSE              FALSE
FALSE
## [530,]              FALSE              FALSE
FALSE
## [531,]              FALSE              FALSE
FALSE
## [532,]              FALSE              FALSE
FALSE
## [533,]              FALSE              FALSE
FALSE
## [534,]              FALSE              FALSE
FALSE
## [535,]              FALSE              FALSE
FALSE
## [536,]              FALSE              FALSE
FALSE
## [537,]              FALSE              FALSE
FALSE
## [538,]              FALSE              FALSE
FALSE
## [539,]              FALSE              FALSE
FALSE
## [540,]              FALSE              FALSE
FALSE
## [541,]              FALSE              FALSE
FALSE
## [542,]              FALSE              FALSE
FALSE
## [543,]              FALSE              FALSE
FALSE
## [544,]              FALSE              FALSE
FALSE
## [545,]              FALSE              FALSE
FALSE
## [546,]              FALSE              FALSE
FALSE
## [547,]              FALSE              FALSE
FALSE
## [548,]              FALSE              FALSE
FALSE
## [549,]              FALSE              FALSE
FALSE
## [550,]              FALSE              FALSE
FALSE
## [551,]              FALSE              FALSE
FALSE
```

```
## [552,]                FALSE            FALSE
FALSE
## [553,]                FALSE            FALSE
FALSE
## [554,]                FALSE            FALSE
FALSE
## [555,]                FALSE            FALSE
FALSE
## [556,]                FALSE            FALSE
FALSE
## [557,]                FALSE            FALSE
FALSE
## [558,]                FALSE            FALSE
FALSE
## [559,]                FALSE            FALSE
FALSE
## [560,]                FALSE            FALSE
FALSE
## [561,]                FALSE            FALSE
FALSE
## [562,]                FALSE            FALSE
FALSE
## [563,]                FALSE            FALSE
FALSE
## [564,]                FALSE            FALSE
FALSE
## [565,]                FALSE            FALSE
FALSE
## [566,]                FALSE            FALSE
FALSE
## [567,]                FALSE            FALSE
FALSE
## [568,]                FALSE            FALSE
FALSE
## [569,]                FALSE            FALSE
FALSE
## [570,]                FALSE            FALSE
FALSE
## [571,]                FALSE            FALSE
FALSE
## [572,]                FALSE            FALSE
FALSE
## [573,]                FALSE            FALSE
FALSE
## [574,]                FALSE            FALSE
FALSE
## [575,]                FALSE            FALSE
FALSE
## [576,]                FALSE            FALSE
FALSE
```

```
## [577,]                    FALSE              FALSE
FALSE
## [578,]                    FALSE              FALSE
FALSE
## [579,]                    FALSE              FALSE
FALSE
## [580,]                    FALSE              FALSE
FALSE
## [581,]                    FALSE              FALSE
FALSE
## [582,]                    FALSE              FALSE
FALSE
## [583,]                    FALSE              FALSE
FALSE
## [584,]                    FALSE              FALSE
FALSE
## [585,]                    FALSE              FALSE
FALSE
## [586,]                    FALSE              FALSE
FALSE
## [587,]                    FALSE              FALSE
FALSE
## [588,]                    FALSE              FALSE
FALSE
## [589,]                    FALSE              FALSE
FALSE
## [590,]                    FALSE              FALSE
FALSE
## [591,]                    FALSE              FALSE
FALSE
## [592,]                    FALSE              FALSE
FALSE
## [593,]                    FALSE              FALSE
FALSE
## [594,]                    FALSE              FALSE
FALSE
## [595,]                    FALSE              FALSE
FALSE
## [596,]                    FALSE              FALSE
FALSE
## [597,]                    FALSE              FALSE
FALSE
## [598,]                    FALSE              FALSE
FALSE
## [599,]                    FALSE              FALSE
FALSE
## [600,]                    FALSE              FALSE
FALSE
## [601,]                    FALSE              FALSE
FALSE
```

```
## [602,]              FALSE              FALSE
FALSE
## [603,]              FALSE              FALSE
FALSE
## [604,]              FALSE              FALSE
FALSE
## [605,]              FALSE              FALSE
FALSE
## [606,]              FALSE              FALSE
FALSE
## [607,]              FALSE              FALSE
FALSE
## [608,]              FALSE              FALSE
FALSE
## [609,]              FALSE              FALSE
FALSE
## [610,]              FALSE              FALSE
FALSE
## [611,]              FALSE              FALSE
FALSE
## [612,]              FALSE              FALSE
FALSE
## [613,]              FALSE              FALSE
FALSE
## [614,]              FALSE              FALSE
FALSE
## [615,]              FALSE              FALSE
FALSE
## [616,]              FALSE              FALSE
FALSE
## [617,]              FALSE              FALSE
FALSE
## [618,]              FALSE              FALSE
FALSE
## [619,]              FALSE              FALSE
FALSE
## [620,]              FALSE              FALSE
FALSE
## [621,]              FALSE              FALSE
FALSE
## [622,]              FALSE              FALSE
FALSE
## [623,]              FALSE              FALSE
FALSE
## [624,]              FALSE              FALSE
FALSE
## [625,]              FALSE              FALSE
FALSE
## [626,]              FALSE              FALSE
FALSE
```

```
## [627,]              FALSE              FALSE
FALSE
## [628,]              FALSE              FALSE
FALSE
## [629,]              FALSE              FALSE
FALSE
## [630,]              FALSE              FALSE
FALSE
## [631,]              FALSE              FALSE
FALSE
## [632,]              FALSE              FALSE
FALSE
## [633,]              FALSE              FALSE
FALSE
## [634,]              FALSE              FALSE
FALSE
## [635,]              FALSE              FALSE
FALSE
## [636,]              FALSE              FALSE
FALSE
## [637,]              FALSE              FALSE
FALSE
## [638,]              FALSE              FALSE
FALSE
## [639,]              FALSE              FALSE
FALSE
## [640,]              FALSE              FALSE
FALSE
## [641,]              FALSE              FALSE
FALSE
## [642,]              FALSE              FALSE
FALSE
## [643,]              FALSE              FALSE
FALSE
## [644,]              FALSE              FALSE
FALSE
## [645,]              FALSE              FALSE
FALSE
## [646,]              FALSE              FALSE
FALSE
## [647,]              FALSE              FALSE
FALSE
## [648,]              FALSE              FALSE
FALSE
## [649,]              FALSE              FALSE
FALSE
## [650,]              FALSE              FALSE
FALSE
## [651,]              FALSE              FALSE
FALSE
```

```
## [652,]            FALSE            FALSE
FALSE
## [653,]            FALSE            FALSE
FALSE
## [654,]            FALSE            FALSE
FALSE
## [655,]            FALSE            FALSE
FALSE
## [656,]            FALSE            FALSE
FALSE
## [657,]            FALSE            FALSE
FALSE
## [658,]            FALSE            FALSE
FALSE
## [659,]            FALSE            FALSE
FALSE
## [660,]            FALSE            FALSE
FALSE
## [661,]            FALSE            FALSE
FALSE
## [662,]            FALSE            FALSE
FALSE
## [663,]            FALSE            FALSE
FALSE
## [664,]            FALSE            FALSE
FALSE
## [665,]            FALSE            FALSE
FALSE
## [666,]            FALSE            FALSE
FALSE
## [667,]            FALSE            FALSE
FALSE
## [668,]            FALSE            FALSE
FALSE
## [669,]            FALSE            FALSE
FALSE
## [670,]            FALSE            FALSE
FALSE
## [671,]            FALSE            FALSE
FALSE
## [672,]            FALSE            FALSE
FALSE
## [673,]            FALSE            FALSE
FALSE
## [674,]            FALSE            FALSE
FALSE
## [675,]            FALSE            FALSE
FALSE
## [676,]            FALSE            FALSE
FALSE
```

```
## [677,]               FALSE          FALSE
FALSE
## [678,]               FALSE          FALSE
FALSE
## [679,]               FALSE          FALSE
FALSE
## [680,]               FALSE          FALSE
FALSE
## [681,]               FALSE          FALSE
FALSE
## [682,]               FALSE          FALSE
FALSE
## [683,]               FALSE          FALSE
FALSE
## [684,]               FALSE          FALSE
FALSE
## [685,]               FALSE          FALSE
FALSE
## [686,]               FALSE          FALSE
FALSE
## [687,]               FALSE          FALSE
FALSE
## [688,]               FALSE          FALSE
FALSE
## [689,]               FALSE          FALSE
FALSE
## [690,]               FALSE          FALSE
FALSE
## [691,]               FALSE          FALSE
FALSE
## [692,]               FALSE          FALSE
FALSE
## [693,]               FALSE          FALSE
FALSE
## [694,]               FALSE          FALSE
FALSE
## [695,]               FALSE          FALSE
FALSE
## [696,]               FALSE          FALSE
FALSE
## [697,]               FALSE          FALSE
FALSE
## [698,]               FALSE          FALSE
FALSE
## [699,]               FALSE          FALSE
FALSE
## [700,]               FALSE          FALSE
FALSE
## [701,]               FALSE          FALSE
FALSE
```

```
## [702,]              FALSE          FALSE
FALSE
## [703,]              FALSE          FALSE
FALSE
## [704,]              FALSE          FALSE
FALSE
## [705,]              FALSE          FALSE
FALSE
## [706,]              FALSE          FALSE
FALSE
## [707,]              FALSE          FALSE
FALSE
## [708,]              FALSE          FALSE
FALSE
## [709,]              FALSE          FALSE
FALSE
## [710,]              FALSE          FALSE
FALSE
## [711,]              FALSE          FALSE
FALSE
## [712,]              FALSE          FALSE
FALSE
## [713,]              FALSE          FALSE
FALSE
## [714,]              FALSE          FALSE
FALSE
## [715,]              FALSE          FALSE
FALSE
## [716,]              FALSE          FALSE
FALSE
## [717,]              FALSE          FALSE
FALSE
## [718,]              FALSE          FALSE
FALSE
## [719,]              FALSE          FALSE
FALSE
## [720,]              FALSE          FALSE
FALSE
## [721,]              FALSE          FALSE
FALSE
## [722,]              FALSE          FALSE
FALSE
## [723,]              FALSE          FALSE
FALSE
## [724,]              FALSE          FALSE
FALSE
## [725,]              FALSE          FALSE
FALSE
## [726,]              FALSE          FALSE
FALSE
```

```
## [727,]                    FALSE              FALSE
FALSE
## [728,]                    FALSE              FALSE
FALSE
## [729,]                    FALSE              FALSE
FALSE
## [730,]                    FALSE              FALSE
FALSE
## [731,]                    FALSE              FALSE
FALSE
## [732,]                    FALSE              FALSE
FALSE
## [733,]                    FALSE              FALSE
FALSE
## [734,]                    FALSE              FALSE
FALSE
## [735,]                    FALSE              FALSE
FALSE
## [736,]                    FALSE              FALSE
FALSE
## [737,]                    FALSE              FALSE
FALSE
## [738,]                    FALSE              FALSE
FALSE
## [739,]                    FALSE              FALSE
FALSE
## [740,]                    FALSE              FALSE
FALSE
## [741,]                    FALSE              FALSE
FALSE
## [742,]                    FALSE              FALSE
FALSE
## [743,]                    FALSE              FALSE
FALSE
## [744,]                    FALSE              FALSE
FALSE
## [745,]                    FALSE              FALSE
FALSE
## [746,]                    FALSE              FALSE
FALSE
## [747,]                    FALSE              FALSE
FALSE
## [748,]                    FALSE              FALSE
FALSE
## [749,]                    FALSE              FALSE
FALSE
## [750,]                    FALSE              FALSE
FALSE
## [751,]                    FALSE              FALSE
FALSE
```

```
## [752,]            FALSE         FALSE
FALSE
## [753,]            FALSE         FALSE
FALSE
## [754,]            FALSE         FALSE
FALSE
## [755,]            FALSE         FALSE
FALSE
## [756,]            FALSE         FALSE
FALSE
## [757,]            FALSE         FALSE
FALSE
## [758,]            FALSE         FALSE
FALSE
## [759,]            FALSE         FALSE
FALSE
## [760,]            FALSE         FALSE
FALSE
## [761,]            FALSE         FALSE
FALSE
## [762,]            FALSE         FALSE
FALSE
## [763,]            FALSE         FALSE
FALSE
## [764,]            FALSE         FALSE
FALSE
## [765,]            FALSE         FALSE
FALSE
## [766,]            FALSE         FALSE
FALSE
## [767,]            FALSE         FALSE
FALSE
## [768,]            FALSE         FALSE
FALSE
## [769,]            FALSE         FALSE
FALSE
## [770,]            FALSE         FALSE
FALSE
## [771,]            FALSE         FALSE
FALSE
## [772,]            FALSE         FALSE
FALSE
## [773,]            FALSE         FALSE
FALSE
## [774,]            FALSE         FALSE
FALSE
## [775,]            FALSE         FALSE
FALSE
## [776,]            FALSE         FALSE
FALSE
```

```
## [777,]              FALSE           FALSE
FALSE
## [778,]              FALSE           FALSE
FALSE
## [779,]              FALSE           FALSE
FALSE
## [780,]              FALSE           FALSE
FALSE
## [781,]              FALSE           FALSE
FALSE
## [782,]              FALSE           FALSE
FALSE
## [783,]              FALSE           FALSE
FALSE
## [784,]              FALSE           FALSE
FALSE
## [785,]              FALSE           FALSE
FALSE
## [786,]              FALSE           FALSE
FALSE
## [787,]              FALSE           FALSE
FALSE
## [788,]              FALSE           FALSE
FALSE
## [789,]              FALSE           FALSE
FALSE
## [790,]              FALSE           FALSE
FALSE
## [791,]              FALSE           FALSE
FALSE
## [792,]              FALSE           FALSE
FALSE
## [793,]              FALSE           FALSE
FALSE
## [794,]              FALSE           FALSE
FALSE
## [795,]              FALSE           FALSE
FALSE
## [796,]              FALSE           FALSE
FALSE
## [797,]              FALSE           FALSE
FALSE
## [798,]              FALSE           FALSE
FALSE
## [799,]              FALSE           FALSE
FALSE
## [800,]              FALSE           FALSE
FALSE
## [801,]              FALSE           FALSE
FALSE
```

```
## [802,]              FALSE          FALSE
FALSE
## [803,]              FALSE          FALSE
FALSE
## [804,]              FALSE          FALSE
FALSE
## [805,]              FALSE          FALSE
FALSE
## [806,]              FALSE          FALSE
FALSE
## [807,]              FALSE          FALSE
FALSE
## [808,]              FALSE          FALSE
FALSE
## [809,]              FALSE          FALSE
FALSE
## [810,]              FALSE          FALSE
FALSE
## [811,]              FALSE          FALSE
FALSE
## [812,]              FALSE          FALSE
FALSE
## [813,]              FALSE          FALSE
FALSE
## [814,]              FALSE          FALSE
FALSE
## [815,]              FALSE          FALSE
FALSE
## [816,]              FALSE          FALSE
FALSE
## [817,]              FALSE          FALSE
FALSE
## [818,]              FALSE          FALSE
FALSE
## [819,]              FALSE          FALSE
FALSE
## [820,]              FALSE          FALSE
FALSE
## [821,]              FALSE          FALSE
FALSE
## [822,]              FALSE          FALSE
FALSE
## [823,]              FALSE          FALSE
FALSE
## [824,]              FALSE          FALSE
FALSE
## [825,]              FALSE          FALSE
FALSE
## [826,]              FALSE          FALSE
FALSE
```

```
## [827,]           FALSE        FALSE
FALSE
## [828,]           FALSE        FALSE
FALSE
## [829,]           FALSE        FALSE
FALSE
## [830,]           FALSE        FALSE
FALSE
## [831,]           FALSE        FALSE
FALSE
## [832,]           FALSE        FALSE
FALSE
## [833,]           FALSE        FALSE
FALSE
## [834,]           FALSE        FALSE
FALSE
## [835,]           FALSE        FALSE
FALSE
## [836,]           FALSE        FALSE
FALSE
## [837,]           FALSE        FALSE
FALSE
## [838,]           FALSE        FALSE
FALSE
## [839,]           FALSE        FALSE
FALSE
## [840,]           FALSE        FALSE
FALSE
## [841,]           FALSE        FALSE
FALSE
## [842,]           FALSE        FALSE
FALSE
## [843,]           FALSE        FALSE
FALSE
## [844,]           FALSE        FALSE
FALSE
## [845,]           FALSE        FALSE
FALSE
## [846,]           FALSE        FALSE
FALSE
## [847,]           FALSE        FALSE
FALSE
## [848,]           FALSE        FALSE
FALSE
## [849,]           FALSE        FALSE
FALSE
## [850,]           FALSE        FALSE
FALSE
## [851,]           FALSE        FALSE
FALSE
```

```
## [852,]              FALSE           FALSE
FALSE
## [853,]              FALSE           FALSE
FALSE
## [854,]              FALSE           FALSE
FALSE
## [855,]              FALSE           FALSE
FALSE
## [856,]              FALSE           FALSE
FALSE
## [857,]              FALSE           FALSE
FALSE
## [858,]              FALSE           FALSE
FALSE
## [859,]              FALSE           FALSE
FALSE
## [860,]              FALSE           FALSE
FALSE
## [861,]              FALSE           FALSE
FALSE
## [862,]              FALSE           FALSE
FALSE
## [863,]              FALSE           FALSE
FALSE
## [864,]              FALSE           FALSE
FALSE
## [865,]              FALSE           FALSE
FALSE
## [866,]              FALSE           FALSE
FALSE
## [867,]              FALSE           FALSE
FALSE
## [868,]              FALSE           FALSE
FALSE
## [869,]              FALSE           FALSE
FALSE
## [870,]              FALSE           FALSE
FALSE
## [871,]              FALSE           FALSE
FALSE
## [872,]              FALSE           FALSE
FALSE
## [873,]              FALSE           FALSE
FALSE
## [874,]              FALSE           FALSE
FALSE
## [875,]              FALSE           FALSE
FALSE
## [876,]              FALSE           FALSE
FALSE
```

```
## [877,]            FALSE            FALSE
FALSE
## [878,]            FALSE            FALSE
FALSE
## [879,]            FALSE            FALSE
FALSE
## [880,]            FALSE            FALSE
FALSE
## [881,]            FALSE            FALSE
FALSE
## [882,]            FALSE            FALSE
FALSE
## [883,]            FALSE            FALSE
FALSE
## [884,]            FALSE            FALSE
FALSE
## [885,]            FALSE            FALSE
FALSE
## [886,]            FALSE            FALSE
FALSE
## [887,]            FALSE            FALSE
FALSE
## [888,]            FALSE            FALSE
FALSE
## [889,]            FALSE            FALSE
FALSE
## [890,]            FALSE            FALSE
FALSE
## [891,]            FALSE            FALSE
FALSE
## [892,]            FALSE            FALSE
FALSE
## [893,]            FALSE            FALSE
FALSE
## [894,]            FALSE            FALSE
FALSE
## [895,]            FALSE            FALSE
FALSE
## [896,]            FALSE            FALSE
FALSE
## [897,]            FALSE            FALSE
FALSE
## [898,]            FALSE            FALSE
FALSE
## [899,]            FALSE            FALSE
FALSE
## [900,]            FALSE            FALSE
FALSE
## [901,]            FALSE            FALSE
FALSE
```

```
## [902,]              FALSE          FALSE
FALSE
## [903,]              FALSE          FALSE
FALSE
## [904,]              FALSE          FALSE
FALSE
## [905,]              FALSE          FALSE
FALSE
## [906,]              FALSE          FALSE
FALSE
## [907,]              FALSE          FALSE
FALSE
## [908,]              FALSE          FALSE
FALSE
## [909,]              FALSE          FALSE
FALSE
## [910,]              FALSE          FALSE
FALSE
## [911,]              FALSE          FALSE
FALSE
## [912,]              FALSE          FALSE
FALSE
## [913,]              FALSE          FALSE
FALSE
## [914,]              FALSE          FALSE
FALSE
## [915,]              FALSE          FALSE
FALSE
## [916,]              FALSE          FALSE
FALSE
## [917,]              FALSE          FALSE
FALSE
## [918,]              FALSE          FALSE
FALSE
## [919,]              FALSE          FALSE
FALSE
## [920,]              FALSE          FALSE
FALSE
## [921,]              FALSE          FALSE
FALSE
## [922,]              FALSE          FALSE
FALSE
## [923,]              FALSE          FALSE
FALSE
## [924,]              FALSE          FALSE
FALSE
## [925,]              FALSE          FALSE
FALSE
## [926,]              FALSE          FALSE
FALSE
```

```
## [927,]                          FALSE                 FALSE
FALSE
## [928,]                          FALSE                 FALSE
FALSE
## [929,]                          FALSE                 FALSE
FALSE
## [930,]                          FALSE                 FALSE
FALSE
## [931,]                          FALSE                 FALSE
FALSE
## [932,]                          FALSE                 FALSE
FALSE
## [933,]                          FALSE                 FALSE
FALSE
## [934,]                          FALSE                 FALSE
FALSE
## [935,]                          FALSE                 FALSE
FALSE
## [936,]                          FALSE                 FALSE
FALSE
## [937,]                          FALSE                 FALSE
FALSE
## [938,]                          FALSE                 FALSE
FALSE
## [939,]                          FALSE                 FALSE
FALSE
## [940,]                          FALSE                 FALSE
FALSE
##          LightActiveDistance SedentaryActiveDistance VeryActiveMinutes
##    [1,]            FALSE                  FALSE              FALSE
##    [2,]            FALSE                  FALSE              FALSE
##    [3,]            FALSE                  FALSE              FALSE
##    [4,]            FALSE                  FALSE              FALSE
##    [5,]            FALSE                  FALSE              FALSE
##    [6,]            FALSE                  FALSE              FALSE
##    [7,]            FALSE                  FALSE              FALSE
##    [8,]            FALSE                  FALSE              FALSE
##    [9,]            FALSE                  FALSE              FALSE
##   [10,]            FALSE                  FALSE              FALSE
##   [11,]            FALSE                  FALSE              FALSE
##   [12,]            FALSE                  FALSE              FALSE
##   [13,]            FALSE                  FALSE              FALSE
##   [14,]            FALSE                  FALSE              FALSE
##   [15,]            FALSE                  FALSE              FALSE
##   [16,]            FALSE                  FALSE              FALSE
##   [17,]            FALSE                  FALSE              FALSE
##   [18,]            FALSE                  FALSE              FALSE
##   [19,]            FALSE                  FALSE              FALSE
##   [20,]            FALSE                  FALSE              FALSE
##   [21,]            FALSE                  FALSE              FALSE
```

```
##  [22,]                 FALSE                FALSE           FALSE
##  [23,]                 FALSE                FALSE           FALSE
##  [24,]                 FALSE                FALSE           FALSE
##  [25,]                 FALSE                FALSE           FALSE
##  [26,]                 FALSE                FALSE           FALSE
##  [27,]                 FALSE                FALSE           FALSE
##  [28,]                 FALSE                FALSE           FALSE
##  [29,]                 FALSE                FALSE           FALSE
##  [30,]                 FALSE                FALSE           FALSE
##  [31,]                 FALSE                FALSE           FALSE
##  [32,]                 FALSE                FALSE           FALSE
##  [33,]                 FALSE                FALSE           FALSE
##  [34,]                 FALSE                FALSE           FALSE
##  [35,]                 FALSE                FALSE           FALSE
##  [36,]                 FALSE                FALSE           FALSE
##  [37,]                 FALSE                FALSE           FALSE
##  [38,]                 FALSE                FALSE           FALSE
##  [39,]                 FALSE                FALSE           FALSE
##  [40,]                 FALSE                FALSE           FALSE
##  [41,]                 FALSE                FALSE           FALSE
##  [42,]                 FALSE                FALSE           FALSE
##  [43,]                 FALSE                FALSE           FALSE
##  [44,]                 FALSE                FALSE           FALSE
##  [45,]                 FALSE                FALSE           FALSE
##  [46,]                 FALSE                FALSE           FALSE
##  [47,]                 FALSE                FALSE           FALSE
##  [48,]                 FALSE                FALSE           FALSE
##  [49,]                 FALSE                FALSE           FALSE
##  [50,]                 FALSE                FALSE           FALSE
##  [51,]                 FALSE                FALSE           FALSE
##  [52,]                 FALSE                FALSE           FALSE
##  [53,]                 FALSE                FALSE           FALSE
##  [54,]                 FALSE                FALSE           FALSE
##  [55,]                 FALSE                FALSE           FALSE
##  [56,]                 FALSE                FALSE           FALSE
##  [57,]                 FALSE                FALSE           FALSE
##  [58,]                 FALSE                FALSE           FALSE
##  [59,]                 FALSE                FALSE           FALSE
##  [60,]                 FALSE                FALSE           FALSE
##  [61,]                 FALSE                FALSE           FALSE
##  [62,]                 FALSE                FALSE           FALSE
##  [63,]                 FALSE                FALSE           FALSE
##  [64,]                 FALSE                FALSE           FALSE
##  [65,]                 FALSE                FALSE           FALSE
##  [66,]                 FALSE                FALSE           FALSE
##  [67,]                 FALSE                FALSE           FALSE
##  [68,]                 FALSE                FALSE           FALSE
##  [69,]                 FALSE                FALSE           FALSE
##  [70,]                 FALSE                FALSE           FALSE
##  [71,]                 FALSE                FALSE           FALSE
```

```
##  [72,]             FALSE                FALSE                FALSE
##  [73,]             FALSE                FALSE                FALSE
##  [74,]             FALSE                FALSE                FALSE
##  [75,]             FALSE                FALSE                FALSE
##  [76,]             FALSE                FALSE                FALSE
##  [77,]             FALSE                FALSE                FALSE
##  [78,]             FALSE                FALSE                FALSE
##  [79,]             FALSE                FALSE                FALSE
##  [80,]             FALSE                FALSE                FALSE
##  [81,]             FALSE                FALSE                FALSE
##  [82,]             FALSE                FALSE                FALSE
##  [83,]             FALSE                FALSE                FALSE
##  [84,]             FALSE                FALSE                FALSE
##  [85,]             FALSE                FALSE                FALSE
##  [86,]             FALSE                FALSE                FALSE
##  [87,]             FALSE                FALSE                FALSE
##  [88,]             FALSE                FALSE                FALSE
##  [89,]             FALSE                FALSE                FALSE
##  [90,]             FALSE                FALSE                FALSE
##  [91,]             FALSE                FALSE                FALSE
##  [92,]             FALSE                FALSE                FALSE
##  [93,]             FALSE                FALSE                FALSE
##  [94,]             FALSE                FALSE                FALSE
##  [95,]             FALSE                FALSE                FALSE
##  [96,]             FALSE                FALSE                FALSE
##  [97,]             FALSE                FALSE                FALSE
##  [98,]             FALSE                FALSE                FALSE
##  [99,]             FALSE                FALSE                FALSE
## [100,]             FALSE                FALSE                FALSE
## [101,]             FALSE                FALSE                FALSE
## [102,]             FALSE                FALSE                FALSE
## [103,]             FALSE                FALSE                FALSE
## [104,]             FALSE                FALSE                FALSE
## [105,]             FALSE                FALSE                FALSE
## [106,]             FALSE                FALSE                FALSE
## [107,]             FALSE                FALSE                FALSE
## [108,]             FALSE                FALSE                FALSE
## [109,]             FALSE                FALSE                FALSE
## [110,]             FALSE                FALSE                FALSE
## [111,]             FALSE                FALSE                FALSE
## [112,]             FALSE                FALSE                FALSE
## [113,]             FALSE                FALSE                FALSE
## [114,]             FALSE                FALSE                FALSE
## [115,]             FALSE                FALSE                FALSE
## [116,]             FALSE                FALSE                FALSE
## [117,]             FALSE                FALSE                FALSE
## [118,]             FALSE                FALSE                FALSE
## [119,]             FALSE                FALSE                FALSE
## [120,]             FALSE                FALSE                FALSE
## [121,]             FALSE                FALSE                FALSE
```

```
## [122,]          FALSE          FALSE          FALSE
## [123,]          FALSE          FALSE          FALSE
## [124,]          FALSE          FALSE          FALSE
## [125,]          FALSE          FALSE          FALSE
## [126,]          FALSE          FALSE          FALSE
## [127,]          FALSE          FALSE          FALSE
## [128,]          FALSE          FALSE          FALSE
## [129,]          FALSE          FALSE          FALSE
## [130,]          FALSE          FALSE          FALSE
## [131,]          FALSE          FALSE          FALSE
## [132,]          FALSE          FALSE          FALSE
## [133,]          FALSE          FALSE          FALSE
## [134,]          FALSE          FALSE          FALSE
## [135,]          FALSE          FALSE          FALSE
## [136,]          FALSE          FALSE          FALSE
## [137,]          FALSE          FALSE          FALSE
## [138,]          FALSE          FALSE          FALSE
## [139,]          FALSE          FALSE          FALSE
## [140,]          FALSE          FALSE          FALSE
## [141,]          FALSE          FALSE          FALSE
## [142,]          FALSE          FALSE          FALSE
## [143,]          FALSE          FALSE          FALSE
## [144,]          FALSE          FALSE          FALSE
## [145,]          FALSE          FALSE          FALSE
## [146,]          FALSE          FALSE          FALSE
## [147,]          FALSE          FALSE          FALSE
## [148,]          FALSE          FALSE          FALSE
## [149,]          FALSE          FALSE          FALSE
## [150,]          FALSE          FALSE          FALSE
## [151,]          FALSE          FALSE          FALSE
## [152,]          FALSE          FALSE          FALSE
## [153,]          FALSE          FALSE          FALSE
## [154,]          FALSE          FALSE          FALSE
## [155,]          FALSE          FALSE          FALSE
## [156,]          FALSE          FALSE          FALSE
## [157,]          FALSE          FALSE          FALSE
## [158,]          FALSE          FALSE          FALSE
## [159,]          FALSE          FALSE          FALSE
## [160,]          FALSE          FALSE          FALSE
## [161,]          FALSE          FALSE          FALSE
## [162,]          FALSE          FALSE          FALSE
## [163,]          FALSE          FALSE          FALSE
## [164,]          FALSE          FALSE          FALSE
## [165,]          FALSE          FALSE          FALSE
## [166,]          FALSE          FALSE          FALSE
## [167,]          FALSE          FALSE          FALSE
## [168,]          FALSE          FALSE          FALSE
## [169,]          FALSE          FALSE          FALSE
## [170,]          FALSE          FALSE          FALSE
## [171,]          FALSE          FALSE          FALSE
```

```
## [172,]              FALSE              FALSE              FALSE
## [173,]              FALSE              FALSE              FALSE
## [174,]              FALSE              FALSE              FALSE
## [175,]              FALSE              FALSE              FALSE
## [176,]              FALSE              FALSE              FALSE
## [177,]              FALSE              FALSE              FALSE
## [178,]              FALSE              FALSE              FALSE
## [179,]              FALSE              FALSE              FALSE
## [180,]              FALSE              FALSE              FALSE
## [181,]              FALSE              FALSE              FALSE
## [182,]              FALSE              FALSE              FALSE
## [183,]              FALSE              FALSE              FALSE
## [184,]              FALSE              FALSE              FALSE
## [185,]              FALSE              FALSE              FALSE
## [186,]              FALSE              FALSE              FALSE
## [187,]              FALSE              FALSE              FALSE
## [188,]              FALSE              FALSE              FALSE
## [189,]              FALSE              FALSE              FALSE
## [190,]              FALSE              FALSE              FALSE
## [191,]              FALSE              FALSE              FALSE
## [192,]              FALSE              FALSE              FALSE
## [193,]              FALSE              FALSE              FALSE
## [194,]              FALSE              FALSE              FALSE
## [195,]              FALSE              FALSE              FALSE
## [196,]              FALSE              FALSE              FALSE
## [197,]              FALSE              FALSE              FALSE
## [198,]              FALSE              FALSE              FALSE
## [199,]              FALSE              FALSE              FALSE
## [200,]              FALSE              FALSE              FALSE
## [201,]              FALSE              FALSE              FALSE
## [202,]              FALSE              FALSE              FALSE
## [203,]              FALSE              FALSE              FALSE
## [204,]              FALSE              FALSE              FALSE
## [205,]              FALSE              FALSE              FALSE
## [206,]              FALSE              FALSE              FALSE
## [207,]              FALSE              FALSE              FALSE
## [208,]              FALSE              FALSE              FALSE
## [209,]              FALSE              FALSE              FALSE
## [210,]              FALSE              FALSE              FALSE
## [211,]              FALSE              FALSE              FALSE
## [212,]              FALSE              FALSE              FALSE
## [213,]              FALSE              FALSE              FALSE
## [214,]              FALSE              FALSE              FALSE
## [215,]              FALSE              FALSE              FALSE
## [216,]              FALSE              FALSE              FALSE
## [217,]              FALSE              FALSE              FALSE
## [218,]              FALSE              FALSE              FALSE
## [219,]              FALSE              FALSE              FALSE
## [220,]              FALSE              FALSE              FALSE
## [221,]              FALSE              FALSE              FALSE
```

```
## [222,]            FALSE            FALSE            FALSE
## [223,]            FALSE            FALSE            FALSE
## [224,]            FALSE            FALSE            FALSE
## [225,]            FALSE            FALSE            FALSE
## [226,]            FALSE            FALSE            FALSE
## [227,]            FALSE            FALSE            FALSE
## [228,]            FALSE            FALSE            FALSE
## [229,]            FALSE            FALSE            FALSE
## [230,]            FALSE            FALSE            FALSE
## [231,]            FALSE            FALSE            FALSE
## [232,]            FALSE            FALSE            FALSE
## [233,]            FALSE            FALSE            FALSE
## [234,]            FALSE            FALSE            FALSE
## [235,]            FALSE            FALSE            FALSE
## [236,]            FALSE            FALSE            FALSE
## [237,]            FALSE            FALSE            FALSE
## [238,]            FALSE            FALSE            FALSE
## [239,]            FALSE            FALSE            FALSE
## [240,]            FALSE            FALSE            FALSE
## [241,]            FALSE            FALSE            FALSE
## [242,]            FALSE            FALSE            FALSE
## [243,]            FALSE            FALSE            FALSE
## [244,]            FALSE            FALSE            FALSE
## [245,]            FALSE            FALSE            FALSE
## [246,]            FALSE            FALSE            FALSE
## [247,]            FALSE            FALSE            FALSE
## [248,]            FALSE            FALSE            FALSE
## [249,]            FALSE            FALSE            FALSE
## [250,]            FALSE            FALSE            FALSE
## [251,]            FALSE            FALSE            FALSE
## [252,]            FALSE            FALSE            FALSE
## [253,]            FALSE            FALSE            FALSE
## [254,]            FALSE            FALSE            FALSE
## [255,]            FALSE            FALSE            FALSE
## [256,]            FALSE            FALSE            FALSE
## [257,]            FALSE            FALSE            FALSE
## [258,]            FALSE            FALSE            FALSE
## [259,]            FALSE            FALSE            FALSE
## [260,]            FALSE            FALSE            FALSE
## [261,]            FALSE            FALSE            FALSE
## [262,]            FALSE            FALSE            FALSE
## [263,]            FALSE            FALSE            FALSE
## [264,]            FALSE            FALSE            FALSE
## [265,]            FALSE            FALSE            FALSE
## [266,]            FALSE            FALSE            FALSE
## [267,]            FALSE            FALSE            FALSE
## [268,]            FALSE            FALSE            FALSE
## [269,]            FALSE            FALSE            FALSE
## [270,]            FALSE            FALSE            FALSE
## [271,]            FALSE            FALSE            FALSE
```

```
## [272,]               FALSE           FALSE           FALSE
## [273,]               FALSE           FALSE           FALSE
## [274,]               FALSE           FALSE           FALSE
## [275,]               FALSE           FALSE           FALSE
## [276,]               FALSE           FALSE           FALSE
## [277,]               FALSE           FALSE           FALSE
## [278,]               FALSE           FALSE           FALSE
## [279,]               FALSE           FALSE           FALSE
## [280,]               FALSE           FALSE           FALSE
## [281,]               FALSE           FALSE           FALSE
## [282,]               FALSE           FALSE           FALSE
## [283,]               FALSE           FALSE           FALSE
## [284,]               FALSE           FALSE           FALSE
## [285,]               FALSE           FALSE           FALSE
## [286,]               FALSE           FALSE           FALSE
## [287,]               FALSE           FALSE           FALSE
## [288,]               FALSE           FALSE           FALSE
## [289,]               FALSE           FALSE           FALSE
## [290,]               FALSE           FALSE           FALSE
## [291,]               FALSE           FALSE           FALSE
## [292,]               FALSE           FALSE           FALSE
## [293,]               FALSE           FALSE           FALSE
## [294,]               FALSE           FALSE           FALSE
## [295,]               FALSE           FALSE           FALSE
## [296,]               FALSE           FALSE           FALSE
## [297,]               FALSE           FALSE           FALSE
## [298,]               FALSE           FALSE           FALSE
## [299,]               FALSE           FALSE           FALSE
## [300,]               FALSE           FALSE           FALSE
## [301,]               FALSE           FALSE           FALSE
## [302,]               FALSE           FALSE           FALSE
## [303,]               FALSE           FALSE           FALSE
## [304,]               FALSE           FALSE           FALSE
## [305,]               FALSE           FALSE           FALSE
## [306,]               FALSE           FALSE           FALSE
## [307,]               FALSE           FALSE           FALSE
## [308,]               FALSE           FALSE           FALSE
## [309,]               FALSE           FALSE           FALSE
## [310,]               FALSE           FALSE           FALSE
## [311,]               FALSE           FALSE           FALSE
## [312,]               FALSE           FALSE           FALSE
## [313,]               FALSE           FALSE           FALSE
## [314,]               FALSE           FALSE           FALSE
## [315,]               FALSE           FALSE           FALSE
## [316,]               FALSE           FALSE           FALSE
## [317,]               FALSE           FALSE           FALSE
## [318,]               FALSE           FALSE           FALSE
## [319,]               FALSE           FALSE           FALSE
## [320,]               FALSE           FALSE           FALSE
## [321,]               FALSE           FALSE           FALSE
```

```
## [322,]               FALSE               FALSE               FALSE
## [323,]               FALSE               FALSE               FALSE
## [324,]               FALSE               FALSE               FALSE
## [325,]               FALSE               FALSE               FALSE
## [326,]               FALSE               FALSE               FALSE
## [327,]               FALSE               FALSE               FALSE
## [328,]               FALSE               FALSE               FALSE
## [329,]               FALSE               FALSE               FALSE
## [330,]               FALSE               FALSE               FALSE
## [331,]               FALSE               FALSE               FALSE
## [332,]               FALSE               FALSE               FALSE
## [333,]               FALSE               FALSE               FALSE
## [334,]               FALSE               FALSE               FALSE
## [335,]               FALSE               FALSE               FALSE
## [336,]               FALSE               FALSE               FALSE
## [337,]               FALSE               FALSE               FALSE
## [338,]               FALSE               FALSE               FALSE
## [339,]               FALSE               FALSE               FALSE
## [340,]               FALSE               FALSE               FALSE
## [341,]               FALSE               FALSE               FALSE
## [342,]               FALSE               FALSE               FALSE
## [343,]               FALSE               FALSE               FALSE
## [344,]               FALSE               FALSE               FALSE
## [345,]               FALSE               FALSE               FALSE
## [346,]               FALSE               FALSE               FALSE
## [347,]               FALSE               FALSE               FALSE
## [348,]               FALSE               FALSE               FALSE
## [349,]               FALSE               FALSE               FALSE
## [350,]               FALSE               FALSE               FALSE
## [351,]               FALSE               FALSE               FALSE
## [352,]               FALSE               FALSE               FALSE
## [353,]               FALSE               FALSE               FALSE
## [354,]               FALSE               FALSE               FALSE
## [355,]               FALSE               FALSE               FALSE
## [356,]               FALSE               FALSE               FALSE
## [357,]               FALSE               FALSE               FALSE
## [358,]               FALSE               FALSE               FALSE
## [359,]               FALSE               FALSE               FALSE
## [360,]               FALSE               FALSE               FALSE
## [361,]               FALSE               FALSE               FALSE
## [362,]               FALSE               FALSE               FALSE
## [363,]               FALSE               FALSE               FALSE
## [364,]               FALSE               FALSE               FALSE
## [365,]               FALSE               FALSE               FALSE
## [366,]               FALSE               FALSE               FALSE
## [367,]               FALSE               FALSE               FALSE
## [368,]               FALSE               FALSE               FALSE
## [369,]               FALSE               FALSE               FALSE
## [370,]               FALSE               FALSE               FALSE
## [371,]               FALSE               FALSE               FALSE
```

```
## [372,]             FALSE              FALSE              FALSE
## [373,]             FALSE              FALSE              FALSE
## [374,]             FALSE              FALSE              FALSE
## [375,]             FALSE              FALSE              FALSE
## [376,]             FALSE              FALSE              FALSE
## [377,]             FALSE              FALSE              FALSE
## [378,]             FALSE              FALSE              FALSE
## [379,]             FALSE              FALSE              FALSE
## [380,]             FALSE              FALSE              FALSE
## [381,]             FALSE              FALSE              FALSE
## [382,]             FALSE              FALSE              FALSE
## [383,]             FALSE              FALSE              FALSE
## [384,]             FALSE              FALSE              FALSE
## [385,]             FALSE              FALSE              FALSE
## [386,]             FALSE              FALSE              FALSE
## [387,]             FALSE              FALSE              FALSE
## [388,]             FALSE              FALSE              FALSE
## [389,]             FALSE              FALSE              FALSE
## [390,]             FALSE              FALSE              FALSE
## [391,]             FALSE              FALSE              FALSE
## [392,]             FALSE              FALSE              FALSE
## [393,]             FALSE              FALSE              FALSE
## [394,]             FALSE              FALSE              FALSE
## [395,]             FALSE              FALSE              FALSE
## [396,]             FALSE              FALSE              FALSE
## [397,]             FALSE              FALSE              FALSE
## [398,]             FALSE              FALSE              FALSE
## [399,]             FALSE              FALSE              FALSE
## [400,]             FALSE              FALSE              FALSE
## [401,]             FALSE              FALSE              FALSE
## [402,]             FALSE              FALSE              FALSE
## [403,]             FALSE              FALSE              FALSE
## [404,]             FALSE              FALSE              FALSE
## [405,]             FALSE              FALSE              FALSE
## [406,]             FALSE              FALSE              FALSE
## [407,]             FALSE              FALSE              FALSE
## [408,]             FALSE              FALSE              FALSE
## [409,]             FALSE              FALSE              FALSE
## [410,]             FALSE              FALSE              FALSE
## [411,]             FALSE              FALSE              FALSE
## [412,]             FALSE              FALSE              FALSE
## [413,]             FALSE              FALSE              FALSE
## [414,]             FALSE              FALSE              FALSE
## [415,]             FALSE              FALSE              FALSE
## [416,]             FALSE              FALSE              FALSE
## [417,]             FALSE              FALSE              FALSE
## [418,]             FALSE              FALSE              FALSE
## [419,]             FALSE              FALSE              FALSE
## [420,]             FALSE              FALSE              FALSE
## [421,]             FALSE              FALSE              FALSE
```

```
## [422,]              FALSE              FALSE              FALSE
## [423,]              FALSE              FALSE              FALSE
## [424,]              FALSE              FALSE              FALSE
## [425,]              FALSE              FALSE              FALSE
## [426,]              FALSE              FALSE              FALSE
## [427,]              FALSE              FALSE              FALSE
## [428,]              FALSE              FALSE              FALSE
## [429,]              FALSE              FALSE              FALSE
## [430,]              FALSE              FALSE              FALSE
## [431,]              FALSE              FALSE              FALSE
## [432,]              FALSE              FALSE              FALSE
## [433,]              FALSE              FALSE              FALSE
## [434,]              FALSE              FALSE              FALSE
## [435,]              FALSE              FALSE              FALSE
## [436,]              FALSE              FALSE              FALSE
## [437,]              FALSE              FALSE              FALSE
## [438,]              FALSE              FALSE              FALSE
## [439,]              FALSE              FALSE              FALSE
## [440,]              FALSE              FALSE              FALSE
## [441,]              FALSE              FALSE              FALSE
## [442,]              FALSE              FALSE              FALSE
## [443,]              FALSE              FALSE              FALSE
## [444,]              FALSE              FALSE              FALSE
## [445,]              FALSE              FALSE              FALSE
## [446,]              FALSE              FALSE              FALSE
## [447,]              FALSE              FALSE              FALSE
## [448,]              FALSE              FALSE              FALSE
## [449,]              FALSE              FALSE              FALSE
## [450,]              FALSE              FALSE              FALSE
## [451,]              FALSE              FALSE              FALSE
## [452,]              FALSE              FALSE              FALSE
## [453,]              FALSE              FALSE              FALSE
## [454,]              FALSE              FALSE              FALSE
## [455,]              FALSE              FALSE              FALSE
## [456,]              FALSE              FALSE              FALSE
## [457,]              FALSE              FALSE              FALSE
## [458,]              FALSE              FALSE              FALSE
## [459,]              FALSE              FALSE              FALSE
## [460,]              FALSE              FALSE              FALSE
## [461,]              FALSE              FALSE              FALSE
## [462,]              FALSE              FALSE              FALSE
## [463,]              FALSE              FALSE              FALSE
## [464,]              FALSE              FALSE              FALSE
## [465,]              FALSE              FALSE              FALSE
## [466,]              FALSE              FALSE              FALSE
## [467,]              FALSE              FALSE              FALSE
## [468,]              FALSE              FALSE              FALSE
## [469,]              FALSE              FALSE              FALSE
## [470,]              FALSE              FALSE              FALSE
## [471,]              FALSE              FALSE              FALSE
```

```
## [472,]                FALSE                FALSE                FALSE
## [473,]                FALSE                FALSE                FALSE
## [474,]                FALSE                FALSE                FALSE
## [475,]                FALSE                FALSE                FALSE
## [476,]                FALSE                FALSE                FALSE
## [477,]                FALSE                FALSE                FALSE
## [478,]                FALSE                FALSE                FALSE
## [479,]                FALSE                FALSE                FALSE
## [480,]                FALSE                FALSE                FALSE
## [481,]                FALSE                FALSE                FALSE
## [482,]                FALSE                FALSE                FALSE
## [483,]                FALSE                FALSE                FALSE
## [484,]                FALSE                FALSE                FALSE
## [485,]                FALSE                FALSE                FALSE
## [486,]                FALSE                FALSE                FALSE
## [487,]                FALSE                FALSE                FALSE
## [488,]                FALSE                FALSE                FALSE
## [489,]                FALSE                FALSE                FALSE
## [490,]                FALSE                FALSE                FALSE
## [491,]                FALSE                FALSE                FALSE
## [492,]                FALSE                FALSE                FALSE
## [493,]                FALSE                FALSE                FALSE
## [494,]                FALSE                FALSE                FALSE
## [495,]                FALSE                FALSE                FALSE
## [496,]                FALSE                FALSE                FALSE
## [497,]                FALSE                FALSE                FALSE
## [498,]                FALSE                FALSE                FALSE
## [499,]                FALSE                FALSE                FALSE
## [500,]                FALSE                FALSE                FALSE
## [501,]                FALSE                FALSE                FALSE
## [502,]                FALSE                FALSE                FALSE
## [503,]                FALSE                FALSE                FALSE
## [504,]                FALSE                FALSE                FALSE
## [505,]                FALSE                FALSE                FALSE
## [506,]                FALSE                FALSE                FALSE
## [507,]                FALSE                FALSE                FALSE
## [508,]                FALSE                FALSE                FALSE
## [509,]                FALSE                FALSE                FALSE
## [510,]                FALSE                FALSE                FALSE
## [511,]                FALSE                FALSE                FALSE
## [512,]                FALSE                FALSE                FALSE
## [513,]                FALSE                FALSE                FALSE
## [514,]                FALSE                FALSE                FALSE
## [515,]                FALSE                FALSE                FALSE
## [516,]                FALSE                FALSE                FALSE
## [517,]                FALSE                FALSE                FALSE
## [518,]                FALSE                FALSE                FALSE
## [519,]                FALSE                FALSE                FALSE
## [520,]                FALSE                FALSE                FALSE
## [521,]                FALSE                FALSE                FALSE
```

```
## [522,]          FALSE          FALSE          FALSE
## [523,]          FALSE          FALSE          FALSE
## [524,]          FALSE          FALSE          FALSE
## [525,]          FALSE          FALSE          FALSE
## [526,]          FALSE          FALSE          FALSE
## [527,]          FALSE          FALSE          FALSE
## [528,]          FALSE          FALSE          FALSE
## [529,]          FALSE          FALSE          FALSE
## [530,]          FALSE          FALSE          FALSE
## [531,]          FALSE          FALSE          FALSE
## [532,]          FALSE          FALSE          FALSE
## [533,]          FALSE          FALSE          FALSE
## [534,]          FALSE          FALSE          FALSE
## [535,]          FALSE          FALSE          FALSE
## [536,]          FALSE          FALSE          FALSE
## [537,]          FALSE          FALSE          FALSE
## [538,]          FALSE          FALSE          FALSE
## [539,]          FALSE          FALSE          FALSE
## [540,]          FALSE          FALSE          FALSE
## [541,]          FALSE          FALSE          FALSE
## [542,]          FALSE          FALSE          FALSE
## [543,]          FALSE          FALSE          FALSE
## [544,]          FALSE          FALSE          FALSE
## [545,]          FALSE          FALSE          FALSE
## [546,]          FALSE          FALSE          FALSE
## [547,]          FALSE          FALSE          FALSE
## [548,]          FALSE          FALSE          FALSE
## [549,]          FALSE          FALSE          FALSE
## [550,]          FALSE          FALSE          FALSE
## [551,]          FALSE          FALSE          FALSE
## [552,]          FALSE          FALSE          FALSE
## [553,]          FALSE          FALSE          FALSE
## [554,]          FALSE          FALSE          FALSE
## [555,]          FALSE          FALSE          FALSE
## [556,]          FALSE          FALSE          FALSE
## [557,]          FALSE          FALSE          FALSE
## [558,]          FALSE          FALSE          FALSE
## [559,]          FALSE          FALSE          FALSE
## [560,]          FALSE          FALSE          FALSE
## [561,]          FALSE          FALSE          FALSE
## [562,]          FALSE          FALSE          FALSE
## [563,]          FALSE          FALSE          FALSE
## [564,]          FALSE          FALSE          FALSE
## [565,]          FALSE          FALSE          FALSE
## [566,]          FALSE          FALSE          FALSE
## [567,]          FALSE          FALSE          FALSE
## [568,]          FALSE          FALSE          FALSE
## [569,]          FALSE          FALSE          FALSE
## [570,]          FALSE          FALSE          FALSE
## [571,]          FALSE          FALSE          FALSE
```

```
## [572,]            FALSE            FALSE            FALSE
## [573,]            FALSE            FALSE            FALSE
## [574,]            FALSE            FALSE            FALSE
## [575,]            FALSE            FALSE            FALSE
## [576,]            FALSE            FALSE            FALSE
## [577,]            FALSE            FALSE            FALSE
## [578,]            FALSE            FALSE            FALSE
## [579,]            FALSE            FALSE            FALSE
## [580,]            FALSE            FALSE            FALSE
## [581,]            FALSE            FALSE            FALSE
## [582,]            FALSE            FALSE            FALSE
## [583,]            FALSE            FALSE            FALSE
## [584,]            FALSE            FALSE            FALSE
## [585,]            FALSE            FALSE            FALSE
## [586,]            FALSE            FALSE            FALSE
## [587,]            FALSE            FALSE            FALSE
## [588,]            FALSE            FALSE            FALSE
## [589,]            FALSE            FALSE            FALSE
## [590,]            FALSE            FALSE            FALSE
## [591,]            FALSE            FALSE            FALSE
## [592,]            FALSE            FALSE            FALSE
## [593,]            FALSE            FALSE            FALSE
## [594,]            FALSE            FALSE            FALSE
## [595,]            FALSE            FALSE            FALSE
## [596,]            FALSE            FALSE            FALSE
## [597,]            FALSE            FALSE            FALSE
## [598,]            FALSE            FALSE            FALSE
## [599,]            FALSE            FALSE            FALSE
## [600,]            FALSE            FALSE            FALSE
## [601,]            FALSE            FALSE            FALSE
## [602,]            FALSE            FALSE            FALSE
## [603,]            FALSE            FALSE            FALSE
## [604,]            FALSE            FALSE            FALSE
## [605,]            FALSE            FALSE            FALSE
## [606,]            FALSE            FALSE            FALSE
## [607,]            FALSE            FALSE            FALSE
## [608,]            FALSE            FALSE            FALSE
## [609,]            FALSE            FALSE            FALSE
## [610,]            FALSE            FALSE            FALSE
## [611,]            FALSE            FALSE            FALSE
## [612,]            FALSE            FALSE            FALSE
## [613,]            FALSE            FALSE            FALSE
## [614,]            FALSE            FALSE            FALSE
## [615,]            FALSE            FALSE            FALSE
## [616,]            FALSE            FALSE            FALSE
## [617,]            FALSE            FALSE            FALSE
## [618,]            FALSE            FALSE            FALSE
## [619,]            FALSE            FALSE            FALSE
## [620,]            FALSE            FALSE            FALSE
## [621,]            FALSE            FALSE            FALSE
```

```
## [622,]            FALSE              FALSE              FALSE
## [623,]            FALSE              FALSE              FALSE
## [624,]            FALSE              FALSE              FALSE
## [625,]            FALSE              FALSE              FALSE
## [626,]            FALSE              FALSE              FALSE
## [627,]            FALSE              FALSE              FALSE
## [628,]            FALSE              FALSE              FALSE
## [629,]            FALSE              FALSE              FALSE
## [630,]            FALSE              FALSE              FALSE
## [631,]            FALSE              FALSE              FALSE
## [632,]            FALSE              FALSE              FALSE
## [633,]            FALSE              FALSE              FALSE
## [634,]            FALSE              FALSE              FALSE
## [635,]            FALSE              FALSE              FALSE
## [636,]            FALSE              FALSE              FALSE
## [637,]            FALSE              FALSE              FALSE
## [638,]            FALSE              FALSE              FALSE
## [639,]            FALSE              FALSE              FALSE
## [640,]            FALSE              FALSE              FALSE
## [641,]            FALSE              FALSE              FALSE
## [642,]            FALSE              FALSE              FALSE
## [643,]            FALSE              FALSE              FALSE
## [644,]            FALSE              FALSE              FALSE
## [645,]            FALSE              FALSE              FALSE
## [646,]            FALSE              FALSE              FALSE
## [647,]            FALSE              FALSE              FALSE
## [648,]            FALSE              FALSE              FALSE
## [649,]            FALSE              FALSE              FALSE
## [650,]            FALSE              FALSE              FALSE
## [651,]            FALSE              FALSE              FALSE
## [652,]            FALSE              FALSE              FALSE
## [653,]            FALSE              FALSE              FALSE
## [654,]            FALSE              FALSE              FALSE
## [655,]            FALSE              FALSE              FALSE
## [656,]            FALSE              FALSE              FALSE
## [657,]            FALSE              FALSE              FALSE
## [658,]            FALSE              FALSE              FALSE
## [659,]            FALSE              FALSE              FALSE
## [660,]            FALSE              FALSE              FALSE
## [661,]            FALSE              FALSE              FALSE
## [662,]            FALSE              FALSE              FALSE
## [663,]            FALSE              FALSE              FALSE
## [664,]            FALSE              FALSE              FALSE
## [665,]            FALSE              FALSE              FALSE
## [666,]            FALSE              FALSE              FALSE
## [667,]            FALSE              FALSE              FALSE
## [668,]            FALSE              FALSE              FALSE
## [669,]            FALSE              FALSE              FALSE
## [670,]            FALSE              FALSE              FALSE
## [671,]            FALSE              FALSE              FALSE
```

```
## [672,]        FALSE        FALSE        FALSE
## [673,]        FALSE        FALSE        FALSE
## [674,]        FALSE        FALSE        FALSE
## [675,]        FALSE        FALSE        FALSE
## [676,]        FALSE        FALSE        FALSE
## [677,]        FALSE        FALSE        FALSE
## [678,]        FALSE        FALSE        FALSE
## [679,]        FALSE        FALSE        FALSE
## [680,]        FALSE        FALSE        FALSE
## [681,]        FALSE        FALSE        FALSE
## [682,]        FALSE        FALSE        FALSE
## [683,]        FALSE        FALSE        FALSE
## [684,]        FALSE        FALSE        FALSE
## [685,]        FALSE        FALSE        FALSE
## [686,]        FALSE        FALSE        FALSE
## [687,]        FALSE        FALSE        FALSE
## [688,]        FALSE        FALSE        FALSE
## [689,]        FALSE        FALSE        FALSE
## [690,]        FALSE        FALSE        FALSE
## [691,]        FALSE        FALSE        FALSE
## [692,]        FALSE        FALSE        FALSE
## [693,]        FALSE        FALSE        FALSE
## [694,]        FALSE        FALSE        FALSE
## [695,]        FALSE        FALSE        FALSE
## [696,]        FALSE        FALSE        FALSE
## [697,]        FALSE        FALSE        FALSE
## [698,]        FALSE        FALSE        FALSE
## [699,]        FALSE        FALSE        FALSE
## [700,]        FALSE        FALSE        FALSE
## [701,]        FALSE        FALSE        FALSE
## [702,]        FALSE        FALSE        FALSE
## [703,]        FALSE        FALSE        FALSE
## [704,]        FALSE        FALSE        FALSE
## [705,]        FALSE        FALSE        FALSE
## [706,]        FALSE        FALSE        FALSE
## [707,]        FALSE        FALSE        FALSE
## [708,]        FALSE        FALSE        FALSE
## [709,]        FALSE        FALSE        FALSE
## [710,]        FALSE        FALSE        FALSE
## [711,]        FALSE        FALSE        FALSE
## [712,]        FALSE        FALSE        FALSE
## [713,]        FALSE        FALSE        FALSE
## [714,]        FALSE        FALSE        FALSE
## [715,]        FALSE        FALSE        FALSE
## [716,]        FALSE        FALSE        FALSE
## [717,]        FALSE        FALSE        FALSE
## [718,]        FALSE        FALSE        FALSE
## [719,]        FALSE        FALSE        FALSE
## [720,]        FALSE        FALSE        FALSE
## [721,]        FALSE        FALSE        FALSE
```

```
## [722,]            FALSE            FALSE            FALSE
## [723,]            FALSE            FALSE            FALSE
## [724,]            FALSE            FALSE            FALSE
## [725,]            FALSE            FALSE            FALSE
## [726,]            FALSE            FALSE            FALSE
## [727,]            FALSE            FALSE            FALSE
## [728,]            FALSE            FALSE            FALSE
## [729,]            FALSE            FALSE            FALSE
## [730,]            FALSE            FALSE            FALSE
## [731,]            FALSE            FALSE            FALSE
## [732,]            FALSE            FALSE            FALSE
## [733,]            FALSE            FALSE            FALSE
## [734,]            FALSE            FALSE            FALSE
## [735,]            FALSE            FALSE            FALSE
## [736,]            FALSE            FALSE            FALSE
## [737,]            FALSE            FALSE            FALSE
## [738,]            FALSE            FALSE            FALSE
## [739,]            FALSE            FALSE            FALSE
## [740,]            FALSE            FALSE            FALSE
## [741,]            FALSE            FALSE            FALSE
## [742,]            FALSE            FALSE            FALSE
## [743,]            FALSE            FALSE            FALSE
## [744,]            FALSE            FALSE            FALSE
## [745,]            FALSE            FALSE            FALSE
## [746,]            FALSE            FALSE            FALSE
## [747,]            FALSE            FALSE            FALSE
## [748,]            FALSE            FALSE            FALSE
## [749,]            FALSE            FALSE            FALSE
## [750,]            FALSE            FALSE            FALSE
## [751,]            FALSE            FALSE            FALSE
## [752,]            FALSE            FALSE            FALSE
## [753,]            FALSE            FALSE            FALSE
## [754,]            FALSE            FALSE            FALSE
## [755,]            FALSE            FALSE            FALSE
## [756,]            FALSE            FALSE            FALSE
## [757,]            FALSE            FALSE            FALSE
## [758,]            FALSE            FALSE            FALSE
## [759,]            FALSE            FALSE            FALSE
## [760,]            FALSE            FALSE            FALSE
## [761,]            FALSE            FALSE            FALSE
## [762,]            FALSE            FALSE            FALSE
## [763,]            FALSE            FALSE            FALSE
## [764,]            FALSE            FALSE            FALSE
## [765,]            FALSE            FALSE            FALSE
## [766,]            FALSE            FALSE            FALSE
## [767,]            FALSE            FALSE            FALSE
## [768,]            FALSE            FALSE            FALSE
## [769,]            FALSE            FALSE            FALSE
## [770,]            FALSE            FALSE            FALSE
## [771,]            FALSE            FALSE            FALSE
```

```
## [772,]           FALSE               FALSE               FALSE
## [773,]           FALSE               FALSE               FALSE
## [774,]           FALSE               FALSE               FALSE
## [775,]           FALSE               FALSE               FALSE
## [776,]           FALSE               FALSE               FALSE
## [777,]           FALSE               FALSE               FALSE
## [778,]           FALSE               FALSE               FALSE
## [779,]           FALSE               FALSE               FALSE
## [780,]           FALSE               FALSE               FALSE
## [781,]           FALSE               FALSE               FALSE
## [782,]           FALSE               FALSE               FALSE
## [783,]           FALSE               FALSE               FALSE
## [784,]           FALSE               FALSE               FALSE
## [785,]           FALSE               FALSE               FALSE
## [786,]           FALSE               FALSE               FALSE
## [787,]           FALSE               FALSE               FALSE
## [788,]           FALSE               FALSE               FALSE
## [789,]           FALSE               FALSE               FALSE
## [790,]           FALSE               FALSE               FALSE
## [791,]           FALSE               FALSE               FALSE
## [792,]           FALSE               FALSE               FALSE
## [793,]           FALSE               FALSE               FALSE
## [794,]           FALSE               FALSE               FALSE
## [795,]           FALSE               FALSE               FALSE
## [796,]           FALSE               FALSE               FALSE
## [797,]           FALSE               FALSE               FALSE
## [798,]           FALSE               FALSE               FALSE
## [799,]           FALSE               FALSE               FALSE
## [800,]           FALSE               FALSE               FALSE
## [801,]           FALSE               FALSE               FALSE
## [802,]           FALSE               FALSE               FALSE
## [803,]           FALSE               FALSE               FALSE
## [804,]           FALSE               FALSE               FALSE
## [805,]           FALSE               FALSE               FALSE
## [806,]           FALSE               FALSE               FALSE
## [807,]           FALSE               FALSE               FALSE
## [808,]           FALSE               FALSE               FALSE
## [809,]           FALSE               FALSE               FALSE
## [810,]           FALSE               FALSE               FALSE
## [811,]           FALSE               FALSE               FALSE
## [812,]           FALSE               FALSE               FALSE
## [813,]           FALSE               FALSE               FALSE
## [814,]           FALSE               FALSE               FALSE
## [815,]           FALSE               FALSE               FALSE
## [816,]           FALSE               FALSE               FALSE
## [817,]           FALSE               FALSE               FALSE
## [818,]           FALSE               FALSE               FALSE
## [819,]           FALSE               FALSE               FALSE
## [820,]           FALSE               FALSE               FALSE
## [821,]           FALSE               FALSE               FALSE
```

```
## [822,]          FALSE          FALSE          FALSE
## [823,]          FALSE          FALSE          FALSE
## [824,]          FALSE          FALSE          FALSE
## [825,]          FALSE          FALSE          FALSE
## [826,]          FALSE          FALSE          FALSE
## [827,]          FALSE          FALSE          FALSE
## [828,]          FALSE          FALSE          FALSE
## [829,]          FALSE          FALSE          FALSE
## [830,]          FALSE          FALSE          FALSE
## [831,]          FALSE          FALSE          FALSE
## [832,]          FALSE          FALSE          FALSE
## [833,]          FALSE          FALSE          FALSE
## [834,]          FALSE          FALSE          FALSE
## [835,]          FALSE          FALSE          FALSE
## [836,]          FALSE          FALSE          FALSE
## [837,]          FALSE          FALSE          FALSE
## [838,]          FALSE          FALSE          FALSE
## [839,]          FALSE          FALSE          FALSE
## [840,]          FALSE          FALSE          FALSE
## [841,]          FALSE          FALSE          FALSE
## [842,]          FALSE          FALSE          FALSE
## [843,]          FALSE          FALSE          FALSE
## [844,]          FALSE          FALSE          FALSE
## [845,]          FALSE          FALSE          FALSE
## [846,]          FALSE          FALSE          FALSE
## [847,]          FALSE          FALSE          FALSE
## [848,]          FALSE          FALSE          FALSE
## [849,]          FALSE          FALSE          FALSE
## [850,]          FALSE          FALSE          FALSE
## [851,]          FALSE          FALSE          FALSE
## [852,]          FALSE          FALSE          FALSE
## [853,]          FALSE          FALSE          FALSE
## [854,]          FALSE          FALSE          FALSE
## [855,]          FALSE          FALSE          FALSE
## [856,]          FALSE          FALSE          FALSE
## [857,]          FALSE          FALSE          FALSE
## [858,]          FALSE          FALSE          FALSE
## [859,]          FALSE          FALSE          FALSE
## [860,]          FALSE          FALSE          FALSE
## [861,]          FALSE          FALSE          FALSE
## [862,]          FALSE          FALSE          FALSE
## [863,]          FALSE          FALSE          FALSE
## [864,]          FALSE          FALSE          FALSE
## [865,]          FALSE          FALSE          FALSE
## [866,]          FALSE          FALSE          FALSE
## [867,]          FALSE          FALSE          FALSE
## [868,]          FALSE          FALSE          FALSE
## [869,]          FALSE          FALSE          FALSE
## [870,]          FALSE          FALSE          FALSE
## [871,]          FALSE          FALSE          FALSE
```

```
## [872,]              FALSE              FALSE              FALSE
## [873,]              FALSE              FALSE              FALSE
## [874,]              FALSE              FALSE              FALSE
## [875,]              FALSE              FALSE              FALSE
## [876,]              FALSE              FALSE              FALSE
## [877,]              FALSE              FALSE              FALSE
## [878,]              FALSE              FALSE              FALSE
## [879,]              FALSE              FALSE              FALSE
## [880,]              FALSE              FALSE              FALSE
## [881,]              FALSE              FALSE              FALSE
## [882,]              FALSE              FALSE              FALSE
## [883,]              FALSE              FALSE              FALSE
## [884,]              FALSE              FALSE              FALSE
## [885,]              FALSE              FALSE              FALSE
## [886,]              FALSE              FALSE              FALSE
## [887,]              FALSE              FALSE              FALSE
## [888,]              FALSE              FALSE              FALSE
## [889,]              FALSE              FALSE              FALSE
## [890,]              FALSE              FALSE              FALSE
## [891,]              FALSE              FALSE              FALSE
## [892,]              FALSE              FALSE              FALSE
## [893,]              FALSE              FALSE              FALSE
## [894,]              FALSE              FALSE              FALSE
## [895,]              FALSE              FALSE              FALSE
## [896,]              FALSE              FALSE              FALSE
## [897,]              FALSE              FALSE              FALSE
## [898,]              FALSE              FALSE              FALSE
## [899,]              FALSE              FALSE              FALSE
## [900,]              FALSE              FALSE              FALSE
## [901,]              FALSE              FALSE              FALSE
## [902,]              FALSE              FALSE              FALSE
## [903,]              FALSE              FALSE              FALSE
## [904,]              FALSE              FALSE              FALSE
## [905,]              FALSE              FALSE              FALSE
## [906,]              FALSE              FALSE              FALSE
## [907,]              FALSE              FALSE              FALSE
## [908,]              FALSE              FALSE              FALSE
## [909,]              FALSE              FALSE              FALSE
## [910,]              FALSE              FALSE              FALSE
## [911,]              FALSE              FALSE              FALSE
## [912,]              FALSE              FALSE              FALSE
## [913,]              FALSE              FALSE              FALSE
## [914,]              FALSE              FALSE              FALSE
## [915,]              FALSE              FALSE              FALSE
## [916,]              FALSE              FALSE              FALSE
## [917,]              FALSE              FALSE              FALSE
## [918,]              FALSE              FALSE              FALSE
## [919,]              FALSE              FALSE              FALSE
## [920,]              FALSE              FALSE              FALSE
## [921,]              FALSE              FALSE              FALSE
```

```
## [922,]                FALSE                  FALSE                FALSE
## [923,]                FALSE                  FALSE                FALSE
## [924,]                FALSE                  FALSE                FALSE
## [925,]                FALSE                  FALSE                FALSE
## [926,]                FALSE                  FALSE                FALSE
## [927,]                FALSE                  FALSE                FALSE
## [928,]                FALSE                  FALSE                FALSE
## [929,]                FALSE                  FALSE                FALSE
## [930,]                FALSE                  FALSE                FALSE
## [931,]                FALSE                  FALSE                FALSE
## [932,]                FALSE                  FALSE                FALSE
## [933,]                FALSE                  FALSE                FALSE
## [934,]                FALSE                  FALSE                FALSE
## [935,]                FALSE                  FALSE                FALSE
## [936,]                FALSE                  FALSE                FALSE
## [937,]                FALSE                  FALSE                FALSE
## [938,]                FALSE                  FALSE                FALSE
## [939,]                FALSE                  FALSE                FALSE
## [940,]                FALSE                  FALSE                FALSE
##         FairlyActiveMinutes LightlyActiveMinutes SedentaryMinutes Calories
##    [1,]               FALSE                FALSE            FALSE    FALSE
##    [2,]               FALSE                FALSE            FALSE    FALSE
##    [3,]               FALSE                FALSE            FALSE    FALSE
##    [4,]               FALSE                FALSE            FALSE    FALSE
##    [5,]               FALSE                FALSE            FALSE    FALSE
##    [6,]               FALSE                FALSE            FALSE    FALSE
##    [7,]               FALSE                FALSE            FALSE    FALSE
##    [8,]               FALSE                FALSE            FALSE    FALSE
##    [9,]               FALSE                FALSE            FALSE    FALSE
##   [10,]               FALSE                FALSE            FALSE    FALSE
##   [11,]               FALSE                FALSE            FALSE    FALSE
##   [12,]               FALSE                FALSE            FALSE    FALSE
##   [13,]               FALSE                FALSE            FALSE    FALSE
##   [14,]               FALSE                FALSE            FALSE    FALSE
##   [15,]               FALSE                FALSE            FALSE    FALSE
##   [16,]               FALSE                FALSE            FALSE    FALSE
##   [17,]               FALSE                FALSE            FALSE    FALSE
##   [18,]               FALSE                FALSE            FALSE    FALSE
##   [19,]               FALSE                FALSE            FALSE    FALSE
##   [20,]               FALSE                FALSE            FALSE    FALSE
##   [21,]               FALSE                FALSE            FALSE    FALSE
##   [22,]               FALSE                FALSE            FALSE    FALSE
##   [23,]               FALSE                FALSE            FALSE    FALSE
##   [24,]               FALSE                FALSE            FALSE    FALSE
##   [25,]               FALSE                FALSE            FALSE    FALSE
##   [26,]               FALSE                FALSE            FALSE    FALSE
##   [27,]               FALSE                FALSE            FALSE    FALSE
##   [28,]               FALSE                FALSE            FALSE    FALSE
##   [29,]               FALSE                FALSE            FALSE    FALSE
##   [30,]               FALSE                FALSE            FALSE    FALSE
```

```
## [31,]             FALSE            FALSE            FALSE    FALSE
## [32,]             FALSE            FALSE            FALSE    FALSE
## [33,]             FALSE            FALSE            FALSE    FALSE
## [34,]             FALSE            FALSE            FALSE    FALSE
## [35,]             FALSE            FALSE            FALSE    FALSE
## [36,]             FALSE            FALSE            FALSE    FALSE
## [37,]             FALSE            FALSE            FALSE    FALSE
## [38,]             FALSE            FALSE            FALSE    FALSE
## [39,]             FALSE            FALSE            FALSE    FALSE
## [40,]             FALSE            FALSE            FALSE    FALSE
## [41,]             FALSE            FALSE            FALSE    FALSE
## [42,]             FALSE            FALSE            FALSE    FALSE
## [43,]             FALSE            FALSE            FALSE    FALSE
## [44,]             FALSE            FALSE            FALSE    FALSE
## [45,]             FALSE            FALSE            FALSE    FALSE
## [46,]             FALSE            FALSE            FALSE    FALSE
## [47,]             FALSE            FALSE            FALSE    FALSE
## [48,]             FALSE            FALSE            FALSE    FALSE
## [49,]             FALSE            FALSE            FALSE    FALSE
## [50,]             FALSE            FALSE            FALSE    FALSE
## [51,]             FALSE            FALSE            FALSE    FALSE
## [52,]             FALSE            FALSE            FALSE    FALSE
## [53,]             FALSE            FALSE            FALSE    FALSE
## [54,]             FALSE            FALSE            FALSE    FALSE
## [55,]             FALSE            FALSE            FALSE    FALSE
## [56,]             FALSE            FALSE            FALSE    FALSE
## [57,]             FALSE            FALSE            FALSE    FALSE
## [58,]             FALSE            FALSE            FALSE    FALSE
## [59,]             FALSE            FALSE            FALSE    FALSE
## [60,]             FALSE            FALSE            FALSE    FALSE
## [61,]             FALSE            FALSE            FALSE    FALSE
## [62,]             FALSE            FALSE            FALSE    FALSE
## [63,]             FALSE            FALSE            FALSE    FALSE
## [64,]             FALSE            FALSE            FALSE    FALSE
## [65,]             FALSE            FALSE            FALSE    FALSE
## [66,]             FALSE            FALSE            FALSE    FALSE
## [67,]             FALSE            FALSE            FALSE    FALSE
## [68,]             FALSE            FALSE            FALSE    FALSE
## [69,]             FALSE            FALSE            FALSE    FALSE
## [70,]             FALSE            FALSE            FALSE    FALSE
## [71,]             FALSE            FALSE            FALSE    FALSE
## [72,]             FALSE            FALSE            FALSE    FALSE
## [73,]             FALSE            FALSE            FALSE    FALSE
## [74,]             FALSE            FALSE            FALSE    FALSE
## [75,]             FALSE            FALSE            FALSE    FALSE
## [76,]             FALSE            FALSE            FALSE    FALSE
## [77,]             FALSE            FALSE            FALSE    FALSE
## [78,]             FALSE            FALSE            FALSE    FALSE
## [79,]             FALSE            FALSE            FALSE    FALSE
## [80,]             FALSE            FALSE            FALSE    FALSE
```

```
##  [81,]            FALSE            FALSE            FALSE    FALSE
##  [82,]            FALSE            FALSE            FALSE    FALSE
##  [83,]            FALSE            FALSE            FALSE    FALSE
##  [84,]            FALSE            FALSE            FALSE    FALSE
##  [85,]            FALSE            FALSE            FALSE    FALSE
##  [86,]            FALSE            FALSE            FALSE    FALSE
##  [87,]            FALSE            FALSE            FALSE    FALSE
##  [88,]            FALSE            FALSE            FALSE    FALSE
##  [89,]            FALSE            FALSE            FALSE    FALSE
##  [90,]            FALSE            FALSE            FALSE    FALSE
##  [91,]            FALSE            FALSE            FALSE    FALSE
##  [92,]            FALSE            FALSE            FALSE    FALSE
##  [93,]            FALSE            FALSE            FALSE    FALSE
##  [94,]            FALSE            FALSE            FALSE    FALSE
##  [95,]            FALSE            FALSE            FALSE    FALSE
##  [96,]            FALSE            FALSE            FALSE    FALSE
##  [97,]            FALSE            FALSE            FALSE    FALSE
##  [98,]            FALSE            FALSE            FALSE    FALSE
##  [99,]            FALSE            FALSE            FALSE    FALSE
## [100,]            FALSE            FALSE            FALSE    FALSE
## [101,]            FALSE            FALSE            FALSE    FALSE
## [102,]            FALSE            FALSE            FALSE    FALSE
## [103,]            FALSE            FALSE            FALSE    FALSE
## [104,]            FALSE            FALSE            FALSE    FALSE
## [105,]            FALSE            FALSE            FALSE    FALSE
## [106,]            FALSE            FALSE            FALSE    FALSE
## [107,]            FALSE            FALSE            FALSE    FALSE
## [108,]            FALSE            FALSE            FALSE    FALSE
## [109,]            FALSE            FALSE            FALSE    FALSE
## [110,]            FALSE            FALSE            FALSE    FALSE
## [111,]            FALSE            FALSE            FALSE    FALSE
## [112,]            FALSE            FALSE            FALSE    FALSE
## [113,]            FALSE            FALSE            FALSE    FALSE
## [114,]            FALSE            FALSE            FALSE    FALSE
## [115,]            FALSE            FALSE            FALSE    FALSE
## [116,]            FALSE            FALSE            FALSE    FALSE
## [117,]            FALSE            FALSE            FALSE    FALSE
## [118,]            FALSE            FALSE            FALSE    FALSE
## [119,]            FALSE            FALSE            FALSE    FALSE
## [120,]            FALSE            FALSE            FALSE    FALSE
## [121,]            FALSE            FALSE            FALSE    FALSE
## [122,]            FALSE            FALSE            FALSE    FALSE
## [123,]            FALSE            FALSE            FALSE    FALSE
## [124,]            FALSE            FALSE            FALSE    FALSE
## [125,]            FALSE            FALSE            FALSE    FALSE
## [126,]            FALSE            FALSE            FALSE    FALSE
## [127,]            FALSE            FALSE            FALSE    FALSE
## [128,]            FALSE            FALSE            FALSE    FALSE
## [129,]            FALSE            FALSE            FALSE    FALSE
## [130,]            FALSE            FALSE            FALSE    FALSE
```

```
## [131,]          FALSE          FALSE          FALSE     FALSE
## [132,]          FALSE          FALSE          FALSE     FALSE
## [133,]          FALSE          FALSE          FALSE     FALSE
## [134,]          FALSE          FALSE          FALSE     FALSE
## [135,]          FALSE          FALSE          FALSE     FALSE
## [136,]          FALSE          FALSE          FALSE     FALSE
## [137,]          FALSE          FALSE          FALSE     FALSE
## [138,]          FALSE          FALSE          FALSE     FALSE
## [139,]          FALSE          FALSE          FALSE     FALSE
## [140,]          FALSE          FALSE          FALSE     FALSE
## [141,]          FALSE          FALSE          FALSE     FALSE
## [142,]          FALSE          FALSE          FALSE     FALSE
## [143,]          FALSE          FALSE          FALSE     FALSE
## [144,]          FALSE          FALSE          FALSE     FALSE
## [145,]          FALSE          FALSE          FALSE     FALSE
## [146,]          FALSE          FALSE          FALSE     FALSE
## [147,]          FALSE          FALSE          FALSE     FALSE
## [148,]          FALSE          FALSE          FALSE     FALSE
## [149,]          FALSE          FALSE          FALSE     FALSE
## [150,]          FALSE          FALSE          FALSE     FALSE
## [151,]          FALSE          FALSE          FALSE     FALSE
## [152,]          FALSE          FALSE          FALSE     FALSE
## [153,]          FALSE          FALSE          FALSE     FALSE
## [154,]          FALSE          FALSE          FALSE     FALSE
## [155,]          FALSE          FALSE          FALSE     FALSE
## [156,]          FALSE          FALSE          FALSE     FALSE
## [157,]          FALSE          FALSE          FALSE     FALSE
## [158,]          FALSE          FALSE          FALSE     FALSE
## [159,]          FALSE          FALSE          FALSE     FALSE
## [160,]          FALSE          FALSE          FALSE     FALSE
## [161,]          FALSE          FALSE          FALSE     FALSE
## [162,]          FALSE          FALSE          FALSE     FALSE
## [163,]          FALSE          FALSE          FALSE     FALSE
## [164,]          FALSE          FALSE          FALSE     FALSE
## [165,]          FALSE          FALSE          FALSE     FALSE
## [166,]          FALSE          FALSE          FALSE     FALSE
## [167,]          FALSE          FALSE          FALSE     FALSE
## [168,]          FALSE          FALSE          FALSE     FALSE
## [169,]          FALSE          FALSE          FALSE     FALSE
## [170,]          FALSE          FALSE          FALSE     FALSE
## [171,]          FALSE          FALSE          FALSE     FALSE
## [172,]          FALSE          FALSE          FALSE     FALSE
## [173,]          FALSE          FALSE          FALSE     FALSE
## [174,]          FALSE          FALSE          FALSE     FALSE
## [175,]          FALSE          FALSE          FALSE     FALSE
## [176,]          FALSE          FALSE          FALSE     FALSE
## [177,]          FALSE          FALSE          FALSE     FALSE
## [178,]          FALSE          FALSE          FALSE     FALSE
## [179,]          FALSE          FALSE          FALSE     FALSE
## [180,]          FALSE          FALSE          FALSE     FALSE
```

```
## [181,]          FALSE          FALSE          FALSE     FALSE
## [182,]          FALSE          FALSE          FALSE     FALSE
## [183,]          FALSE          FALSE          FALSE     FALSE
## [184,]          FALSE          FALSE          FALSE     FALSE
## [185,]          FALSE          FALSE          FALSE     FALSE
## [186,]          FALSE          FALSE          FALSE     FALSE
## [187,]          FALSE          FALSE          FALSE     FALSE
## [188,]          FALSE          FALSE          FALSE     FALSE
## [189,]          FALSE          FALSE          FALSE     FALSE
## [190,]          FALSE          FALSE          FALSE     FALSE
## [191,]          FALSE          FALSE          FALSE     FALSE
## [192,]          FALSE          FALSE          FALSE     FALSE
## [193,]          FALSE          FALSE          FALSE     FALSE
## [194,]          FALSE          FALSE          FALSE     FALSE
## [195,]          FALSE          FALSE          FALSE     FALSE
## [196,]          FALSE          FALSE          FALSE     FALSE
## [197,]          FALSE          FALSE          FALSE     FALSE
## [198,]          FALSE          FALSE          FALSE     FALSE
## [199,]          FALSE          FALSE          FALSE     FALSE
## [200,]          FALSE          FALSE          FALSE     FALSE
## [201,]          FALSE          FALSE          FALSE     FALSE
## [202,]          FALSE          FALSE          FALSE     FALSE
## [203,]          FALSE          FALSE          FALSE     FALSE
## [204,]          FALSE          FALSE          FALSE     FALSE
## [205,]          FALSE          FALSE          FALSE     FALSE
## [206,]          FALSE          FALSE          FALSE     FALSE
## [207,]          FALSE          FALSE          FALSE     FALSE
## [208,]          FALSE          FALSE          FALSE     FALSE
## [209,]          FALSE          FALSE          FALSE     FALSE
## [210,]          FALSE          FALSE          FALSE     FALSE
## [211,]          FALSE          FALSE          FALSE     FALSE
## [212,]          FALSE          FALSE          FALSE     FALSE
## [213,]          FALSE          FALSE          FALSE     FALSE
## [214,]          FALSE          FALSE          FALSE     FALSE
## [215,]          FALSE          FALSE          FALSE     FALSE
## [216,]          FALSE          FALSE          FALSE     FALSE
## [217,]          FALSE          FALSE          FALSE     FALSE
## [218,]          FALSE          FALSE          FALSE     FALSE
## [219,]          FALSE          FALSE          FALSE     FALSE
## [220,]          FALSE          FALSE          FALSE     FALSE
## [221,]          FALSE          FALSE          FALSE     FALSE
## [222,]          FALSE          FALSE          FALSE     FALSE
## [223,]          FALSE          FALSE          FALSE     FALSE
## [224,]          FALSE          FALSE          FALSE     FALSE
## [225,]          FALSE          FALSE          FALSE     FALSE
## [226,]          FALSE          FALSE          FALSE     FALSE
## [227,]          FALSE          FALSE          FALSE     FALSE
## [228,]          FALSE          FALSE          FALSE     FALSE
## [229,]          FALSE          FALSE          FALSE     FALSE
## [230,]          FALSE          FALSE          FALSE     FALSE
```

```
## [231,]               FALSE           FALSE           FALSE    FALSE
## [232,]               FALSE           FALSE           FALSE    FALSE
## [233,]               FALSE           FALSE           FALSE    FALSE
## [234,]               FALSE           FALSE           FALSE    FALSE
## [235,]               FALSE           FALSE           FALSE    FALSE
## [236,]               FALSE           FALSE           FALSE    FALSE
## [237,]               FALSE           FALSE           FALSE    FALSE
## [238,]               FALSE           FALSE           FALSE    FALSE
## [239,]               FALSE           FALSE           FALSE    FALSE
## [240,]               FALSE           FALSE           FALSE    FALSE
## [241,]               FALSE           FALSE           FALSE    FALSE
## [242,]               FALSE           FALSE           FALSE    FALSE
## [243,]               FALSE           FALSE           FALSE    FALSE
## [244,]               FALSE           FALSE           FALSE    FALSE
## [245,]               FALSE           FALSE           FALSE    FALSE
## [246,]               FALSE           FALSE           FALSE    FALSE
## [247,]               FALSE           FALSE           FALSE    FALSE
## [248,]               FALSE           FALSE           FALSE    FALSE
## [249,]               FALSE           FALSE           FALSE    FALSE
## [250,]               FALSE           FALSE           FALSE    FALSE
## [251,]               FALSE           FALSE           FALSE    FALSE
## [252,]               FALSE           FALSE           FALSE    FALSE
## [253,]               FALSE           FALSE           FALSE    FALSE
## [254,]               FALSE           FALSE           FALSE    FALSE
## [255,]               FALSE           FALSE           FALSE    FALSE
## [256,]               FALSE           FALSE           FALSE    FALSE
## [257,]               FALSE           FALSE           FALSE    FALSE
## [258,]               FALSE           FALSE           FALSE    FALSE
## [259,]               FALSE           FALSE           FALSE    FALSE
## [260,]               FALSE           FALSE           FALSE    FALSE
## [261,]               FALSE           FALSE           FALSE    FALSE
## [262,]               FALSE           FALSE           FALSE    FALSE
## [263,]               FALSE           FALSE           FALSE    FALSE
## [264,]               FALSE           FALSE           FALSE    FALSE
## [265,]               FALSE           FALSE           FALSE    FALSE
## [266,]               FALSE           FALSE           FALSE    FALSE
## [267,]               FALSE           FALSE           FALSE    FALSE
## [268,]               FALSE           FALSE           FALSE    FALSE
## [269,]               FALSE           FALSE           FALSE    FALSE
## [270,]               FALSE           FALSE           FALSE    FALSE
## [271,]               FALSE           FALSE           FALSE    FALSE
## [272,]               FALSE           FALSE           FALSE    FALSE
## [273,]               FALSE           FALSE           FALSE    FALSE
## [274,]               FALSE           FALSE           FALSE    FALSE
## [275,]               FALSE           FALSE           FALSE    FALSE
## [276,]               FALSE           FALSE           FALSE    FALSE
## [277,]               FALSE           FALSE           FALSE    FALSE
## [278,]               FALSE           FALSE           FALSE    FALSE
## [279,]               FALSE           FALSE           FALSE    FALSE
## [280,]               FALSE           FALSE           FALSE    FALSE
```

```
## [281,]            FALSE            FALSE            FALSE       FALSE
## [282,]            FALSE            FALSE            FALSE       FALSE
## [283,]            FALSE            FALSE            FALSE       FALSE
## [284,]            FALSE            FALSE            FALSE       FALSE
## [285,]            FALSE            FALSE            FALSE       FALSE
## [286,]            FALSE            FALSE            FALSE       FALSE
## [287,]            FALSE            FALSE            FALSE       FALSE
## [288,]            FALSE            FALSE            FALSE       FALSE
## [289,]            FALSE            FALSE            FALSE       FALSE
## [290,]            FALSE            FALSE            FALSE       FALSE
## [291,]            FALSE            FALSE            FALSE       FALSE
## [292,]            FALSE            FALSE            FALSE       FALSE
## [293,]            FALSE            FALSE            FALSE       FALSE
## [294,]            FALSE            FALSE            FALSE       FALSE
## [295,]            FALSE            FALSE            FALSE       FALSE
## [296,]            FALSE            FALSE            FALSE       FALSE
## [297,]            FALSE            FALSE            FALSE       FALSE
## [298,]            FALSE            FALSE            FALSE       FALSE
## [299,]            FALSE            FALSE            FALSE       FALSE
## [300,]            FALSE            FALSE            FALSE       FALSE
## [301,]            FALSE            FALSE            FALSE       FALSE
## [302,]            FALSE            FALSE            FALSE       FALSE
## [303,]            FALSE            FALSE            FALSE       FALSE
## [304,]            FALSE            FALSE            FALSE       FALSE
## [305,]            FALSE            FALSE            FALSE       FALSE
## [306,]            FALSE            FALSE            FALSE       FALSE
## [307,]            FALSE            FALSE            FALSE       FALSE
## [308,]            FALSE            FALSE            FALSE       FALSE
## [309,]            FALSE            FALSE            FALSE       FALSE
## [310,]            FALSE            FALSE            FALSE       FALSE
## [311,]            FALSE            FALSE            FALSE       FALSE
## [312,]            FALSE            FALSE            FALSE       FALSE
## [313,]            FALSE            FALSE            FALSE       FALSE
## [314,]            FALSE            FALSE            FALSE       FALSE
## [315,]            FALSE            FALSE            FALSE       FALSE
## [316,]            FALSE            FALSE            FALSE       FALSE
## [317,]            FALSE            FALSE            FALSE       FALSE
## [318,]            FALSE            FALSE            FALSE       FALSE
## [319,]            FALSE            FALSE            FALSE       FALSE
## [320,]            FALSE            FALSE            FALSE       FALSE
## [321,]            FALSE            FALSE            FALSE       FALSE
## [322,]            FALSE            FALSE            FALSE       FALSE
## [323,]            FALSE            FALSE            FALSE       FALSE
## [324,]            FALSE            FALSE            FALSE       FALSE
## [325,]            FALSE            FALSE            FALSE       FALSE
## [326,]            FALSE            FALSE            FALSE       FALSE
## [327,]            FALSE            FALSE            FALSE       FALSE
## [328,]            FALSE            FALSE            FALSE       FALSE
## [329,]            FALSE            FALSE            FALSE       FALSE
## [330,]            FALSE            FALSE            FALSE       FALSE
```

```
## [331,]            FALSE           FALSE           FALSE    FALSE
## [332,]            FALSE           FALSE           FALSE    FALSE
## [333,]            FALSE           FALSE           FALSE    FALSE
## [334,]            FALSE           FALSE           FALSE    FALSE
## [335,]            FALSE           FALSE           FALSE    FALSE
## [336,]            FALSE           FALSE           FALSE    FALSE
## [337,]            FALSE           FALSE           FALSE    FALSE
## [338,]            FALSE           FALSE           FALSE    FALSE
## [339,]            FALSE           FALSE           FALSE    FALSE
## [340,]            FALSE           FALSE           FALSE    FALSE
## [341,]            FALSE           FALSE           FALSE    FALSE
## [342,]            FALSE           FALSE           FALSE    FALSE
## [343,]            FALSE           FALSE           FALSE    FALSE
## [344,]            FALSE           FALSE           FALSE    FALSE
## [345,]            FALSE           FALSE           FALSE    FALSE
## [346,]            FALSE           FALSE           FALSE    FALSE
## [347,]            FALSE           FALSE           FALSE    FALSE
## [348,]            FALSE           FALSE           FALSE    FALSE
## [349,]            FALSE           FALSE           FALSE    FALSE
## [350,]            FALSE           FALSE           FALSE    FALSE
## [351,]            FALSE           FALSE           FALSE    FALSE
## [352,]            FALSE           FALSE           FALSE    FALSE
## [353,]            FALSE           FALSE           FALSE    FALSE
## [354,]            FALSE           FALSE           FALSE    FALSE
## [355,]            FALSE           FALSE           FALSE    FALSE
## [356,]            FALSE           FALSE           FALSE    FALSE
## [357,]            FALSE           FALSE           FALSE    FALSE
## [358,]            FALSE           FALSE           FALSE    FALSE
## [359,]            FALSE           FALSE           FALSE    FALSE
## [360,]            FALSE           FALSE           FALSE    FALSE
## [361,]            FALSE           FALSE           FALSE    FALSE
## [362,]            FALSE           FALSE           FALSE    FALSE
## [363,]            FALSE           FALSE           FALSE    FALSE
## [364,]            FALSE           FALSE           FALSE    FALSE
## [365,]            FALSE           FALSE           FALSE    FALSE
## [366,]            FALSE           FALSE           FALSE    FALSE
## [367,]            FALSE           FALSE           FALSE    FALSE
## [368,]            FALSE           FALSE           FALSE    FALSE
## [369,]            FALSE           FALSE           FALSE    FALSE
## [370,]            FALSE           FALSE           FALSE    FALSE
## [371,]            FALSE           FALSE           FALSE    FALSE
## [372,]            FALSE           FALSE           FALSE    FALSE
## [373,]            FALSE           FALSE           FALSE    FALSE
## [374,]            FALSE           FALSE           FALSE    FALSE
## [375,]            FALSE           FALSE           FALSE    FALSE
## [376,]            FALSE           FALSE           FALSE    FALSE
## [377,]            FALSE           FALSE           FALSE    FALSE
## [378,]            FALSE           FALSE           FALSE    FALSE
## [379,]            FALSE           FALSE           FALSE    FALSE
## [380,]            FALSE           FALSE           FALSE    FALSE
```

```
## [381,]            FALSE            FALSE            FALSE    FALSE
## [382,]            FALSE            FALSE            FALSE    FALSE
## [383,]            FALSE            FALSE            FALSE    FALSE
## [384,]            FALSE            FALSE            FALSE    FALSE
## [385,]            FALSE            FALSE            FALSE    FALSE
## [386,]            FALSE            FALSE            FALSE    FALSE
## [387,]            FALSE            FALSE            FALSE    FALSE
## [388,]            FALSE            FALSE            FALSE    FALSE
## [389,]            FALSE            FALSE            FALSE    FALSE
## [390,]            FALSE            FALSE            FALSE    FALSE
## [391,]            FALSE            FALSE            FALSE    FALSE
## [392,]            FALSE            FALSE            FALSE    FALSE
## [393,]            FALSE            FALSE            FALSE    FALSE
## [394,]            FALSE            FALSE            FALSE    FALSE
## [395,]            FALSE            FALSE            FALSE    FALSE
## [396,]            FALSE            FALSE            FALSE    FALSE
## [397,]            FALSE            FALSE            FALSE    FALSE
## [398,]            FALSE            FALSE            FALSE    FALSE
## [399,]            FALSE            FALSE            FALSE    FALSE
## [400,]            FALSE            FALSE            FALSE    FALSE
## [401,]            FALSE            FALSE            FALSE    FALSE
## [402,]            FALSE            FALSE            FALSE    FALSE
## [403,]            FALSE            FALSE            FALSE    FALSE
## [404,]            FALSE            FALSE            FALSE    FALSE
## [405,]            FALSE            FALSE            FALSE    FALSE
## [406,]            FALSE            FALSE            FALSE    FALSE
## [407,]            FALSE            FALSE            FALSE    FALSE
## [408,]            FALSE            FALSE            FALSE    FALSE
## [409,]            FALSE            FALSE            FALSE    FALSE
## [410,]            FALSE            FALSE            FALSE    FALSE
## [411,]            FALSE            FALSE            FALSE    FALSE
## [412,]            FALSE            FALSE            FALSE    FALSE
## [413,]            FALSE            FALSE            FALSE    FALSE
## [414,]            FALSE            FALSE            FALSE    FALSE
## [415,]            FALSE            FALSE            FALSE    FALSE
## [416,]            FALSE            FALSE            FALSE    FALSE
## [417,]            FALSE            FALSE            FALSE    FALSE
## [418,]            FALSE            FALSE            FALSE    FALSE
## [419,]            FALSE            FALSE            FALSE    FALSE
## [420,]            FALSE            FALSE            FALSE    FALSE
## [421,]            FALSE            FALSE            FALSE    FALSE
## [422,]            FALSE            FALSE            FALSE    FALSE
## [423,]            FALSE            FALSE            FALSE    FALSE
## [424,]            FALSE            FALSE            FALSE    FALSE
## [425,]            FALSE            FALSE            FALSE    FALSE
## [426,]            FALSE            FALSE            FALSE    FALSE
## [427,]            FALSE            FALSE            FALSE    FALSE
## [428,]            FALSE            FALSE            FALSE    FALSE
## [429,]            FALSE            FALSE            FALSE    FALSE
## [430,]            FALSE            FALSE            FALSE    FALSE
```

```
## [431,]        FALSE        FALSE        FALSE    FALSE
## [432,]        FALSE        FALSE        FALSE    FALSE
## [433,]        FALSE        FALSE        FALSE    FALSE
## [434,]        FALSE        FALSE        FALSE    FALSE
## [435,]        FALSE        FALSE        FALSE    FALSE
## [436,]        FALSE        FALSE        FALSE    FALSE
## [437,]        FALSE        FALSE        FALSE    FALSE
## [438,]        FALSE        FALSE        FALSE    FALSE
## [439,]        FALSE        FALSE        FALSE    FALSE
## [440,]        FALSE        FALSE        FALSE    FALSE
## [441,]        FALSE        FALSE        FALSE    FALSE
## [442,]        FALSE        FALSE        FALSE    FALSE
## [443,]        FALSE        FALSE        FALSE    FALSE
## [444,]        FALSE        FALSE        FALSE    FALSE
## [445,]        FALSE        FALSE        FALSE    FALSE
## [446,]        FALSE        FALSE        FALSE    FALSE
## [447,]        FALSE        FALSE        FALSE    FALSE
## [448,]        FALSE        FALSE        FALSE    FALSE
## [449,]        FALSE        FALSE        FALSE    FALSE
## [450,]        FALSE        FALSE        FALSE    FALSE
## [451,]        FALSE        FALSE        FALSE    FALSE
## [452,]        FALSE        FALSE        FALSE    FALSE
## [453,]        FALSE        FALSE        FALSE    FALSE
## [454,]        FALSE        FALSE        FALSE    FALSE
## [455,]        FALSE        FALSE        FALSE    FALSE
## [456,]        FALSE        FALSE        FALSE    FALSE
## [457,]        FALSE        FALSE        FALSE    FALSE
## [458,]        FALSE        FALSE        FALSE    FALSE
## [459,]        FALSE        FALSE        FALSE    FALSE
## [460,]        FALSE        FALSE        FALSE    FALSE
## [461,]        FALSE        FALSE        FALSE    FALSE
## [462,]        FALSE        FALSE        FALSE    FALSE
## [463,]        FALSE        FALSE        FALSE    FALSE
## [464,]        FALSE        FALSE        FALSE    FALSE
## [465,]        FALSE        FALSE        FALSE    FALSE
## [466,]        FALSE        FALSE        FALSE    FALSE
## [467,]        FALSE        FALSE        FALSE    FALSE
## [468,]        FALSE        FALSE        FALSE    FALSE
## [469,]        FALSE        FALSE        FALSE    FALSE
## [470,]        FALSE        FALSE        FALSE    FALSE
## [471,]        FALSE        FALSE        FALSE    FALSE
## [472,]        FALSE        FALSE        FALSE    FALSE
## [473,]        FALSE        FALSE        FALSE    FALSE
## [474,]        FALSE        FALSE        FALSE    FALSE
## [475,]        FALSE        FALSE        FALSE    FALSE
## [476,]        FALSE        FALSE        FALSE    FALSE
## [477,]        FALSE        FALSE        FALSE    FALSE
## [478,]        FALSE        FALSE        FALSE    FALSE
## [479,]        FALSE        FALSE        FALSE    FALSE
## [480,]        FALSE        FALSE        FALSE    FALSE
```

```
## [481,]           FALSE          FALSE          FALSE    FALSE
## [482,]           FALSE          FALSE          FALSE    FALSE
## [483,]           FALSE          FALSE          FALSE    FALSE
## [484,]           FALSE          FALSE          FALSE    FALSE
## [485,]           FALSE          FALSE          FALSE    FALSE
## [486,]           FALSE          FALSE          FALSE    FALSE
## [487,]           FALSE          FALSE          FALSE    FALSE
## [488,]           FALSE          FALSE          FALSE    FALSE
## [489,]           FALSE          FALSE          FALSE    FALSE
## [490,]           FALSE          FALSE          FALSE    FALSE
## [491,]           FALSE          FALSE          FALSE    FALSE
## [492,]           FALSE          FALSE          FALSE    FALSE
## [493,]           FALSE          FALSE          FALSE    FALSE
## [494,]           FALSE          FALSE          FALSE    FALSE
## [495,]           FALSE          FALSE          FALSE    FALSE
## [496,]           FALSE          FALSE          FALSE    FALSE
## [497,]           FALSE          FALSE          FALSE    FALSE
## [498,]           FALSE          FALSE          FALSE    FALSE
## [499,]           FALSE          FALSE          FALSE    FALSE
## [500,]           FALSE          FALSE          FALSE    FALSE
## [501,]           FALSE          FALSE          FALSE    FALSE
## [502,]           FALSE          FALSE          FALSE    FALSE
## [503,]           FALSE          FALSE          FALSE    FALSE
## [504,]           FALSE          FALSE          FALSE    FALSE
## [505,]           FALSE          FALSE          FALSE    FALSE
## [506,]           FALSE          FALSE          FALSE    FALSE
## [507,]           FALSE          FALSE          FALSE    FALSE
## [508,]           FALSE          FALSE          FALSE    FALSE
## [509,]           FALSE          FALSE          FALSE    FALSE
## [510,]           FALSE          FALSE          FALSE    FALSE
## [511,]           FALSE          FALSE          FALSE    FALSE
## [512,]           FALSE          FALSE          FALSE    FALSE
## [513,]           FALSE          FALSE          FALSE    FALSE
## [514,]           FALSE          FALSE          FALSE    FALSE
## [515,]           FALSE          FALSE          FALSE    FALSE
## [516,]           FALSE          FALSE          FALSE    FALSE
## [517,]           FALSE          FALSE          FALSE    FALSE
## [518,]           FALSE          FALSE          FALSE    FALSE
## [519,]           FALSE          FALSE          FALSE    FALSE
## [520,]           FALSE          FALSE          FALSE    FALSE
## [521,]           FALSE          FALSE          FALSE    FALSE
## [522,]           FALSE          FALSE          FALSE    FALSE
## [523,]           FALSE          FALSE          FALSE    FALSE
## [524,]           FALSE          FALSE          FALSE    FALSE
## [525,]           FALSE          FALSE          FALSE    FALSE
## [526,]           FALSE          FALSE          FALSE    FALSE
## [527,]           FALSE          FALSE          FALSE    FALSE
## [528,]           FALSE          FALSE          FALSE    FALSE
## [529,]           FALSE          FALSE          FALSE    FALSE
## [530,]           FALSE          FALSE          FALSE    FALSE
```

```
## [531,]          FALSE          FALSE          FALSE     FALSE
## [532,]          FALSE          FALSE          FALSE     FALSE
## [533,]          FALSE          FALSE          FALSE     FALSE
## [534,]          FALSE          FALSE          FALSE     FALSE
## [535,]          FALSE          FALSE          FALSE     FALSE
## [536,]          FALSE          FALSE          FALSE     FALSE
## [537,]          FALSE          FALSE          FALSE     FALSE
## [538,]          FALSE          FALSE          FALSE     FALSE
## [539,]          FALSE          FALSE          FALSE     FALSE
## [540,]          FALSE          FALSE          FALSE     FALSE
## [541,]          FALSE          FALSE          FALSE     FALSE
## [542,]          FALSE          FALSE          FALSE     FALSE
## [543,]          FALSE          FALSE          FALSE     FALSE
## [544,]          FALSE          FALSE          FALSE     FALSE
## [545,]          FALSE          FALSE          FALSE     FALSE
## [546,]          FALSE          FALSE          FALSE     FALSE
## [547,]          FALSE          FALSE          FALSE     FALSE
## [548,]          FALSE          FALSE          FALSE     FALSE
## [549,]          FALSE          FALSE          FALSE     FALSE
## [550,]          FALSE          FALSE          FALSE     FALSE
## [551,]          FALSE          FALSE          FALSE     FALSE
## [552,]          FALSE          FALSE          FALSE     FALSE
## [553,]          FALSE          FALSE          FALSE     FALSE
## [554,]          FALSE          FALSE          FALSE     FALSE
## [555,]          FALSE          FALSE          FALSE     FALSE
## [556,]          FALSE          FALSE          FALSE     FALSE
## [557,]          FALSE          FALSE          FALSE     FALSE
## [558,]          FALSE          FALSE          FALSE     FALSE
## [559,]          FALSE          FALSE          FALSE     FALSE
## [560,]          FALSE          FALSE          FALSE     FALSE
## [561,]          FALSE          FALSE          FALSE     FALSE
## [562,]          FALSE          FALSE          FALSE     FALSE
## [563,]          FALSE          FALSE          FALSE     FALSE
## [564,]          FALSE          FALSE          FALSE     FALSE
## [565,]          FALSE          FALSE          FALSE     FALSE
## [566,]          FALSE          FALSE          FALSE     FALSE
## [567,]          FALSE          FALSE          FALSE     FALSE
## [568,]          FALSE          FALSE          FALSE     FALSE
## [569,]          FALSE          FALSE          FALSE     FALSE
## [570,]          FALSE          FALSE          FALSE     FALSE
## [571,]          FALSE          FALSE          FALSE     FALSE
## [572,]          FALSE          FALSE          FALSE     FALSE
## [573,]          FALSE          FALSE          FALSE     FALSE
## [574,]          FALSE          FALSE          FALSE     FALSE
## [575,]          FALSE          FALSE          FALSE     FALSE
## [576,]          FALSE          FALSE          FALSE     FALSE
## [577,]          FALSE          FALSE          FALSE     FALSE
## [578,]          FALSE          FALSE          FALSE     FALSE
## [579,]          FALSE          FALSE          FALSE     FALSE
## [580,]          FALSE          FALSE          FALSE     FALSE
```

```
## [581,]              FALSE           FALSE           FALSE    FALSE
## [582,]              FALSE           FALSE           FALSE    FALSE
## [583,]              FALSE           FALSE           FALSE    FALSE
## [584,]              FALSE           FALSE           FALSE    FALSE
## [585,]              FALSE           FALSE           FALSE    FALSE
## [586,]              FALSE           FALSE           FALSE    FALSE
## [587,]              FALSE           FALSE           FALSE    FALSE
## [588,]              FALSE           FALSE           FALSE    FALSE
## [589,]              FALSE           FALSE           FALSE    FALSE
## [590,]              FALSE           FALSE           FALSE    FALSE
## [591,]              FALSE           FALSE           FALSE    FALSE
## [592,]              FALSE           FALSE           FALSE    FALSE
## [593,]              FALSE           FALSE           FALSE    FALSE
## [594,]              FALSE           FALSE           FALSE    FALSE
## [595,]              FALSE           FALSE           FALSE    FALSE
## [596,]              FALSE           FALSE           FALSE    FALSE
## [597,]              FALSE           FALSE           FALSE    FALSE
## [598,]              FALSE           FALSE           FALSE    FALSE
## [599,]              FALSE           FALSE           FALSE    FALSE
## [600,]              FALSE           FALSE           FALSE    FALSE
## [601,]              FALSE           FALSE           FALSE    FALSE
## [602,]              FALSE           FALSE           FALSE    FALSE
## [603,]              FALSE           FALSE           FALSE    FALSE
## [604,]              FALSE           FALSE           FALSE    FALSE
## [605,]              FALSE           FALSE           FALSE    FALSE
## [606,]              FALSE           FALSE           FALSE    FALSE
## [607,]              FALSE           FALSE           FALSE    FALSE
## [608,]              FALSE           FALSE           FALSE    FALSE
## [609,]              FALSE           FALSE           FALSE    FALSE
## [610,]              FALSE           FALSE           FALSE    FALSE
## [611,]              FALSE           FALSE           FALSE    FALSE
## [612,]              FALSE           FALSE           FALSE    FALSE
## [613,]              FALSE           FALSE           FALSE    FALSE
## [614,]              FALSE           FALSE           FALSE    FALSE
## [615,]              FALSE           FALSE           FALSE    FALSE
## [616,]              FALSE           FALSE           FALSE    FALSE
## [617,]              FALSE           FALSE           FALSE    FALSE
## [618,]              FALSE           FALSE           FALSE    FALSE
## [619,]              FALSE           FALSE           FALSE    FALSE
## [620,]              FALSE           FALSE           FALSE    FALSE
## [621,]              FALSE           FALSE           FALSE    FALSE
## [622,]              FALSE           FALSE           FALSE    FALSE
## [623,]              FALSE           FALSE           FALSE    FALSE
## [624,]              FALSE           FALSE           FALSE    FALSE
## [625,]              FALSE           FALSE           FALSE    FALSE
## [626,]              FALSE           FALSE           FALSE    FALSE
## [627,]              FALSE           FALSE           FALSE    FALSE
## [628,]              FALSE           FALSE           FALSE    FALSE
## [629,]              FALSE           FALSE           FALSE    FALSE
## [630,]              FALSE           FALSE           FALSE    FALSE
```

```
## [631,]           FALSE           FALSE           FALSE    FALSE
## [632,]           FALSE           FALSE           FALSE    FALSE
## [633,]           FALSE           FALSE           FALSE    FALSE
## [634,]           FALSE           FALSE           FALSE    FALSE
## [635,]           FALSE           FALSE           FALSE    FALSE
## [636,]           FALSE           FALSE           FALSE    FALSE
## [637,]           FALSE           FALSE           FALSE    FALSE
## [638,]           FALSE           FALSE           FALSE    FALSE
## [639,]           FALSE           FALSE           FALSE    FALSE
## [640,]           FALSE           FALSE           FALSE    FALSE
## [641,]           FALSE           FALSE           FALSE    FALSE
## [642,]           FALSE           FALSE           FALSE    FALSE
## [643,]           FALSE           FALSE           FALSE    FALSE
## [644,]           FALSE           FALSE           FALSE    FALSE
## [645,]           FALSE           FALSE           FALSE    FALSE
## [646,]           FALSE           FALSE           FALSE    FALSE
## [647,]           FALSE           FALSE           FALSE    FALSE
## [648,]           FALSE           FALSE           FALSE    FALSE
## [649,]           FALSE           FALSE           FALSE    FALSE
## [650,]           FALSE           FALSE           FALSE    FALSE
## [651,]           FALSE           FALSE           FALSE    FALSE
## [652,]           FALSE           FALSE           FALSE    FALSE
## [653,]           FALSE           FALSE           FALSE    FALSE
## [654,]           FALSE           FALSE           FALSE    FALSE
## [655,]           FALSE           FALSE           FALSE    FALSE
## [656,]           FALSE           FALSE           FALSE    FALSE
## [657,]           FALSE           FALSE           FALSE    FALSE
## [658,]           FALSE           FALSE           FALSE    FALSE
## [659,]           FALSE           FALSE           FALSE    FALSE
## [660,]           FALSE           FALSE           FALSE    FALSE
## [661,]           FALSE           FALSE           FALSE    FALSE
## [662,]           FALSE           FALSE           FALSE    FALSE
## [663,]           FALSE           FALSE           FALSE    FALSE
## [664,]           FALSE           FALSE           FALSE    FALSE
## [665,]           FALSE           FALSE           FALSE    FALSE
## [666,]           FALSE           FALSE           FALSE    FALSE
## [667,]           FALSE           FALSE           FALSE    FALSE
## [668,]           FALSE           FALSE           FALSE    FALSE
## [669,]           FALSE           FALSE           FALSE    FALSE
## [670,]           FALSE           FALSE           FALSE    FALSE
## [671,]           FALSE           FALSE           FALSE    FALSE
## [672,]           FALSE           FALSE           FALSE    FALSE
## [673,]           FALSE           FALSE           FALSE    FALSE
## [674,]           FALSE           FALSE           FALSE    FALSE
## [675,]           FALSE           FALSE           FALSE    FALSE
## [676,]           FALSE           FALSE           FALSE    FALSE
## [677,]           FALSE           FALSE           FALSE    FALSE
## [678,]           FALSE           FALSE           FALSE    FALSE
## [679,]           FALSE           FALSE           FALSE    FALSE
## [680,]           FALSE           FALSE           FALSE    FALSE
```

```
## [681,]            FALSE            FALSE            FALSE   FALSE
## [682,]            FALSE            FALSE            FALSE   FALSE
## [683,]            FALSE            FALSE            FALSE   FALSE
## [684,]            FALSE            FALSE            FALSE   FALSE
## [685,]            FALSE            FALSE            FALSE   FALSE
## [686,]            FALSE            FALSE            FALSE   FALSE
## [687,]            FALSE            FALSE            FALSE   FALSE
## [688,]            FALSE            FALSE            FALSE   FALSE
## [689,]            FALSE            FALSE            FALSE   FALSE
## [690,]            FALSE            FALSE            FALSE   FALSE
## [691,]            FALSE            FALSE            FALSE   FALSE
## [692,]            FALSE            FALSE            FALSE   FALSE
## [693,]            FALSE            FALSE            FALSE   FALSE
## [694,]            FALSE            FALSE            FALSE   FALSE
## [695,]            FALSE            FALSE            FALSE   FALSE
## [696,]            FALSE            FALSE            FALSE   FALSE
## [697,]            FALSE            FALSE            FALSE   FALSE
## [698,]            FALSE            FALSE            FALSE   FALSE
## [699,]            FALSE            FALSE            FALSE   FALSE
## [700,]            FALSE            FALSE            FALSE   FALSE
## [701,]            FALSE            FALSE            FALSE   FALSE
## [702,]            FALSE            FALSE            FALSE   FALSE
## [703,]            FALSE            FALSE            FALSE   FALSE
## [704,]            FALSE            FALSE            FALSE   FALSE
## [705,]            FALSE            FALSE            FALSE   FALSE
## [706,]            FALSE            FALSE            FALSE   FALSE
## [707,]            FALSE            FALSE            FALSE   FALSE
## [708,]            FALSE            FALSE            FALSE   FALSE
## [709,]            FALSE            FALSE            FALSE   FALSE
## [710,]            FALSE            FALSE            FALSE   FALSE
## [711,]            FALSE            FALSE            FALSE   FALSE
## [712,]            FALSE            FALSE            FALSE   FALSE
## [713,]            FALSE            FALSE            FALSE   FALSE
## [714,]            FALSE            FALSE            FALSE   FALSE
## [715,]            FALSE            FALSE            FALSE   FALSE
## [716,]            FALSE            FALSE            FALSE   FALSE
## [717,]            FALSE            FALSE            FALSE   FALSE
## [718,]            FALSE            FALSE            FALSE   FALSE
## [719,]            FALSE            FALSE            FALSE   FALSE
## [720,]            FALSE            FALSE            FALSE   FALSE
## [721,]            FALSE            FALSE            FALSE   FALSE
## [722,]            FALSE            FALSE            FALSE   FALSE
## [723,]            FALSE            FALSE            FALSE   FALSE
## [724,]            FALSE            FALSE            FALSE   FALSE
## [725,]            FALSE            FALSE            FALSE   FALSE
## [726,]            FALSE            FALSE            FALSE   FALSE
## [727,]            FALSE            FALSE            FALSE   FALSE
## [728,]            FALSE            FALSE            FALSE   FALSE
## [729,]            FALSE            FALSE            FALSE   FALSE
## [730,]            FALSE            FALSE            FALSE   FALSE
```

```
## [731,]            FALSE         FALSE          FALSE    FALSE
## [732,]            FALSE         FALSE          FALSE    FALSE
## [733,]            FALSE         FALSE          FALSE    FALSE
## [734,]            FALSE         FALSE          FALSE    FALSE
## [735,]            FALSE         FALSE          FALSE    FALSE
## [736,]            FALSE         FALSE          FALSE    FALSE
## [737,]            FALSE         FALSE          FALSE    FALSE
## [738,]            FALSE         FALSE          FALSE    FALSE
## [739,]            FALSE         FALSE          FALSE    FALSE
## [740,]            FALSE         FALSE          FALSE    FALSE
## [741,]            FALSE         FALSE          FALSE    FALSE
## [742,]            FALSE         FALSE          FALSE    FALSE
## [743,]            FALSE         FALSE          FALSE    FALSE
## [744,]            FALSE         FALSE          FALSE    FALSE
## [745,]            FALSE         FALSE          FALSE    FALSE
## [746,]            FALSE         FALSE          FALSE    FALSE
## [747,]            FALSE         FALSE          FALSE    FALSE
## [748,]            FALSE         FALSE          FALSE    FALSE
## [749,]            FALSE         FALSE          FALSE    FALSE
## [750,]            FALSE         FALSE          FALSE    FALSE
## [751,]            FALSE         FALSE          FALSE    FALSE
## [752,]            FALSE         FALSE          FALSE    FALSE
## [753,]            FALSE         FALSE          FALSE    FALSE
## [754,]            FALSE         FALSE          FALSE    FALSE
## [755,]            FALSE         FALSE          FALSE    FALSE
## [756,]            FALSE         FALSE          FALSE    FALSE
## [757,]            FALSE         FALSE          FALSE    FALSE
## [758,]            FALSE         FALSE          FALSE    FALSE
## [759,]            FALSE         FALSE          FALSE    FALSE
## [760,]            FALSE         FALSE          FALSE    FALSE
## [761,]            FALSE         FALSE          FALSE    FALSE
## [762,]            FALSE         FALSE          FALSE    FALSE
## [763,]            FALSE         FALSE          FALSE    FALSE
## [764,]            FALSE         FALSE          FALSE    FALSE
## [765,]            FALSE         FALSE          FALSE    FALSE
## [766,]            FALSE         FALSE          FALSE    FALSE
## [767,]            FALSE         FALSE          FALSE    FALSE
## [768,]            FALSE         FALSE          FALSE    FALSE
## [769,]            FALSE         FALSE          FALSE    FALSE
## [770,]            FALSE         FALSE          FALSE    FALSE
## [771,]            FALSE         FALSE          FALSE    FALSE
## [772,]            FALSE         FALSE          FALSE    FALSE
## [773,]            FALSE         FALSE          FALSE    FALSE
## [774,]            FALSE         FALSE          FALSE    FALSE
## [775,]            FALSE         FALSE          FALSE    FALSE
## [776,]            FALSE         FALSE          FALSE    FALSE
## [777,]            FALSE         FALSE          FALSE    FALSE
## [778,]            FALSE         FALSE          FALSE    FALSE
## [779,]            FALSE         FALSE          FALSE    FALSE
## [780,]            FALSE         FALSE          FALSE    FALSE
```

```
## [781,]          FALSE          FALSE          FALSE     FALSE
## [782,]          FALSE          FALSE          FALSE     FALSE
## [783,]          FALSE          FALSE          FALSE     FALSE
## [784,]          FALSE          FALSE          FALSE     FALSE
## [785,]          FALSE          FALSE          FALSE     FALSE
## [786,]          FALSE          FALSE          FALSE     FALSE
## [787,]          FALSE          FALSE          FALSE     FALSE
## [788,]          FALSE          FALSE          FALSE     FALSE
## [789,]          FALSE          FALSE          FALSE     FALSE
## [790,]          FALSE          FALSE          FALSE     FALSE
## [791,]          FALSE          FALSE          FALSE     FALSE
## [792,]          FALSE          FALSE          FALSE     FALSE
## [793,]          FALSE          FALSE          FALSE     FALSE
## [794,]          FALSE          FALSE          FALSE     FALSE
## [795,]          FALSE          FALSE          FALSE     FALSE
## [796,]          FALSE          FALSE          FALSE     FALSE
## [797,]          FALSE          FALSE          FALSE     FALSE
## [798,]          FALSE          FALSE          FALSE     FALSE
## [799,]          FALSE          FALSE          FALSE     FALSE
## [800,]          FALSE          FALSE          FALSE     FALSE
## [801,]          FALSE          FALSE          FALSE     FALSE
## [802,]          FALSE          FALSE          FALSE     FALSE
## [803,]          FALSE          FALSE          FALSE     FALSE
## [804,]          FALSE          FALSE          FALSE     FALSE
## [805,]          FALSE          FALSE          FALSE     FALSE
## [806,]          FALSE          FALSE          FALSE     FALSE
## [807,]          FALSE          FALSE          FALSE     FALSE
## [808,]          FALSE          FALSE          FALSE     FALSE
## [809,]          FALSE          FALSE          FALSE     FALSE
## [810,]          FALSE          FALSE          FALSE     FALSE
## [811,]          FALSE          FALSE          FALSE     FALSE
## [812,]          FALSE          FALSE          FALSE     FALSE
## [813,]          FALSE          FALSE          FALSE     FALSE
## [814,]          FALSE          FALSE          FALSE     FALSE
## [815,]          FALSE          FALSE          FALSE     FALSE
## [816,]          FALSE          FALSE          FALSE     FALSE
## [817,]          FALSE          FALSE          FALSE     FALSE
## [818,]          FALSE          FALSE          FALSE     FALSE
## [819,]          FALSE          FALSE          FALSE     FALSE
## [820,]          FALSE          FALSE          FALSE     FALSE
## [821,]          FALSE          FALSE          FALSE     FALSE
## [822,]          FALSE          FALSE          FALSE     FALSE
## [823,]          FALSE          FALSE          FALSE     FALSE
## [824,]          FALSE          FALSE          FALSE     FALSE
## [825,]          FALSE          FALSE          FALSE     FALSE
## [826,]          FALSE          FALSE          FALSE     FALSE
## [827,]          FALSE          FALSE          FALSE     FALSE
## [828,]          FALSE          FALSE          FALSE     FALSE
## [829,]          FALSE          FALSE          FALSE     FALSE
## [830,]          FALSE          FALSE          FALSE     FALSE
```

```
## [831,]            FALSE        FALSE        FALSE    FALSE
## [832,]            FALSE        FALSE        FALSE    FALSE
## [833,]            FALSE        FALSE        FALSE    FALSE
## [834,]            FALSE        FALSE        FALSE    FALSE
## [835,]            FALSE        FALSE        FALSE    FALSE
## [836,]            FALSE        FALSE        FALSE    FALSE
## [837,]            FALSE        FALSE        FALSE    FALSE
## [838,]            FALSE        FALSE        FALSE    FALSE
## [839,]            FALSE        FALSE        FALSE    FALSE
## [840,]            FALSE        FALSE        FALSE    FALSE
## [841,]            FALSE        FALSE        FALSE    FALSE
## [842,]            FALSE        FALSE        FALSE    FALSE
## [843,]            FALSE        FALSE        FALSE    FALSE
## [844,]            FALSE        FALSE        FALSE    FALSE
## [845,]            FALSE        FALSE        FALSE    FALSE
## [846,]            FALSE        FALSE        FALSE    FALSE
## [847,]            FALSE        FALSE        FALSE    FALSE
## [848,]            FALSE        FALSE        FALSE    FALSE
## [849,]            FALSE        FALSE        FALSE    FALSE
## [850,]            FALSE        FALSE        FALSE    FALSE
## [851,]            FALSE        FALSE        FALSE    FALSE
## [852,]            FALSE        FALSE        FALSE    FALSE
## [853,]            FALSE        FALSE        FALSE    FALSE
## [854,]            FALSE        FALSE        FALSE    FALSE
## [855,]            FALSE        FALSE        FALSE    FALSE
## [856,]            FALSE        FALSE        FALSE    FALSE
## [857,]            FALSE        FALSE        FALSE    FALSE
## [858,]            FALSE        FALSE        FALSE    FALSE
## [859,]            FALSE        FALSE        FALSE    FALSE
## [860,]            FALSE        FALSE        FALSE    FALSE
## [861,]            FALSE        FALSE        FALSE    FALSE
## [862,]            FALSE        FALSE        FALSE    FALSE
## [863,]            FALSE        FALSE        FALSE    FALSE
## [864,]            FALSE        FALSE        FALSE    FALSE
## [865,]            FALSE        FALSE        FALSE    FALSE
## [866,]            FALSE        FALSE        FALSE    FALSE
## [867,]            FALSE        FALSE        FALSE    FALSE
## [868,]            FALSE        FALSE        FALSE    FALSE
## [869,]            FALSE        FALSE        FALSE    FALSE
## [870,]            FALSE        FALSE        FALSE    FALSE
## [871,]            FALSE        FALSE        FALSE    FALSE
## [872,]            FALSE        FALSE        FALSE    FALSE
## [873,]            FALSE        FALSE        FALSE    FALSE
## [874,]            FALSE        FALSE        FALSE    FALSE
## [875,]            FALSE        FALSE        FALSE    FALSE
## [876,]            FALSE        FALSE        FALSE    FALSE
## [877,]            FALSE        FALSE        FALSE    FALSE
## [878,]            FALSE        FALSE        FALSE    FALSE
## [879,]            FALSE        FALSE        FALSE    FALSE
## [880,]            FALSE        FALSE        FALSE    FALSE
```

```
## [881,]           FALSE           FALSE           FALSE     FALSE
## [882,]           FALSE           FALSE           FALSE     FALSE
## [883,]           FALSE           FALSE           FALSE     FALSE
## [884,]           FALSE           FALSE           FALSE     FALSE
## [885,]           FALSE           FALSE           FALSE     FALSE
## [886,]           FALSE           FALSE           FALSE     FALSE
## [887,]           FALSE           FALSE           FALSE     FALSE
## [888,]           FALSE           FALSE           FALSE     FALSE
## [889,]           FALSE           FALSE           FALSE     FALSE
## [890,]           FALSE           FALSE           FALSE     FALSE
## [891,]           FALSE           FALSE           FALSE     FALSE
## [892,]           FALSE           FALSE           FALSE     FALSE
## [893,]           FALSE           FALSE           FALSE     FALSE
## [894,]           FALSE           FALSE           FALSE     FALSE
## [895,]           FALSE           FALSE           FALSE     FALSE
## [896,]           FALSE           FALSE           FALSE     FALSE
## [897,]           FALSE           FALSE           FALSE     FALSE
## [898,]           FALSE           FALSE           FALSE     FALSE
## [899,]           FALSE           FALSE           FALSE     FALSE
## [900,]           FALSE           FALSE           FALSE     FALSE
## [901,]           FALSE           FALSE           FALSE     FALSE
## [902,]           FALSE           FALSE           FALSE     FALSE
## [903,]           FALSE           FALSE           FALSE     FALSE
## [904,]           FALSE           FALSE           FALSE     FALSE
## [905,]           FALSE           FALSE           FALSE     FALSE
## [906,]           FALSE           FALSE           FALSE     FALSE
## [907,]           FALSE           FALSE           FALSE     FALSE
## [908,]           FALSE           FALSE           FALSE     FALSE
## [909,]           FALSE           FALSE           FALSE     FALSE
## [910,]           FALSE           FALSE           FALSE     FALSE
## [911,]           FALSE           FALSE           FALSE     FALSE
## [912,]           FALSE           FALSE           FALSE     FALSE
## [913,]           FALSE           FALSE           FALSE     FALSE
## [914,]           FALSE           FALSE           FALSE     FALSE
## [915,]           FALSE           FALSE           FALSE     FALSE
## [916,]           FALSE           FALSE           FALSE     FALSE
## [917,]           FALSE           FALSE           FALSE     FALSE
## [918,]           FALSE           FALSE           FALSE     FALSE
## [919,]           FALSE           FALSE           FALSE     FALSE
## [920,]           FALSE           FALSE           FALSE     FALSE
## [921,]           FALSE           FALSE           FALSE     FALSE
## [922,]           FALSE           FALSE           FALSE     FALSE
## [923,]           FALSE           FALSE           FALSE     FALSE
## [924,]           FALSE           FALSE           FALSE     FALSE
## [925,]           FALSE           FALSE           FALSE     FALSE
## [926,]           FALSE           FALSE           FALSE     FALSE
## [927,]           FALSE           FALSE           FALSE     FALSE
## [928,]           FALSE           FALSE           FALSE     FALSE
## [929,]           FALSE           FALSE           FALSE     FALSE
## [930,]           FALSE           FALSE           FALSE     FALSE
```

```
## [931,]                FALSE            FALSE          FALSE      FALSE
## [932,]                FALSE            FALSE          FALSE      FALSE
## [933,]                FALSE            FALSE          FALSE      FALSE
## [934,]                FALSE            FALSE          FALSE      FALSE
## [935,]                FALSE            FALSE          FALSE      FALSE
## [936,]                FALSE            FALSE          FALSE      FALSE
## [937,]                FALSE            FALSE          FALSE      FALSE
## [938,]                FALSE            FALSE          FALSE      FALSE
## [939,]                FALSE            FALSE          FALSE      FALSE
## [940,]                FALSE            FALSE          FALSE      FALSE
```

```r
sum(is.na(dailyActivity))
```

```
## [1] 0
```

No missing values are detected in the dailyActivity table, affirming the data's comprehensive and intact nature.
This ensures a solid foundation for subsequent analysis, without concerns about data gaps.

Finding Duplicates in dailyActivity Table:
```r
duplicated(dailyActivity)
```

```
##   [1] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
##  [13] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
##  [25] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
##  [37] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
##  [49] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
##  [61] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
##  [73] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
##  [85] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
##  [97] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [109] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [121] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [133] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [145] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [157] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
```

```
## [169] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [181] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [193] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [205] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [217] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [229] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [241] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [253] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [265] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [277] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [289] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [301] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [313] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [325] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [337] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [349] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [361] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [373] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [385] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [397] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [409] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [421] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [433] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [445] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [457] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
```

```
## [469] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [481] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [493] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [505] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [517] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [529] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [541] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [553] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [565] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [577] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [589] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [601] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [613] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [625] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [637] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [649] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [661] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [673] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [685] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [697] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [709] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [721] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [733] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [745] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
## [757] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## FALSE
```

```
## [769] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [781] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [793] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [805] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [817] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [829] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [841] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [853] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [865] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [877] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [889] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [901] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [913] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [925] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [937] FALSE FALSE FALSE FALSE
```

```r
dailyActivity[duplicated(dailyActivity),]
```

```
##  [1] Id                     ActivityDate           TotalSteps
##  [4] TotalDistance          TrackerDistance
LoggedActivitiesDistance
##  [7] VeryActiveDistance     ModeratelyActiveDistance LightActiveDistance
## [10] SedentaryActiveDistance VeryActiveMinutes      FairlyActiveMinutes
## [13] LightlyActiveMinutes   SedentaryMinutes       Calories
## <0 rows> (or 0-length row.names)
```

The absence of duplicate rows indicates data integrity, enhancing the reliability of my analysis.
This outcome suggests that each observation in the dataset is unique, preventing redundancy and potential inaccuracies.

To get a statistical summary of the numerical columns in the dailyActivity table.
```r
summary(dailyActivity)
```

```
##        Id            ActivityDate         TotalSteps      TotalDistance
##  Min.   :1.504e+09   Length:940         Min.   :    0   Min.   : 0.000
```

```
##   1st Qu.:2.320e+09   Class :character   1st Qu.: 3790   1st Qu.: 2.620
##   Median :4.445e+09   Mode  :character   Median : 7406   Median : 5.245
##   Mean   :4.855e+09                      Mean   : 7638   Mean   : 5.490
##   3rd Qu.:6.962e+09                      3rd Qu.:10727   3rd Qu.: 7.713
##   Max.   :8.878e+09                      Max.   :36019   Max.   :28.030
##   TrackerDistance  LoggedActivitiesDistance VeryActiveDistance
##   Min.   : 0.000   Min.   :0.0000           Min.   : 0.000
##   1st Qu.: 2.620   1st Qu.:0.0000           1st Qu.: 0.000
##   Median : 5.245   Median :0.0000           Median : 0.210
##   Mean   : 5.475   Mean   :0.1082           Mean   : 1.503
##   3rd Qu.: 7.710   3rd Qu.:0.0000           3rd Qu.: 2.053
##   Max.   :28.030   Max.   :4.9421           Max.   :21.920
##   ModeratelyActiveDistance LightActiveDistance SedentaryActiveDistance
##   Min.   :0.0000           Min.   : 0.000      Min.   :0.000000
##   1st Qu.:0.0000           1st Qu.: 1.945      1st Qu.:0.000000
##   Median :0.2400           Median : 3.365      Median :0.000000
##   Mean   :0.5675           Mean   : 3.341      Mean   :0.001606
##   3rd Qu.:0.8000           3rd Qu.: 4.782      3rd Qu.:0.000000
##   Max.   :6.4800           Max.   :10.710      Max.   :0.110000
##   VeryActiveMinutes FairlyActiveMinutes LightlyActiveMinutes
SedentaryMinutes
##   Min.   :  0.00    Min.   :  0.00      Min.   :  0.0      Min.   :   0.0
##   1st Qu.:  0.00    1st Qu.:  0.00      1st Qu.:127.0      1st Qu.: 729.8
##   Median :  4.00    Median :  6.00      Median :199.0      Median :1057.5
##   Mean   : 21.16    Mean   : 13.56      Mean   :192.8      Mean   : 991.2
##   3rd Qu.: 32.00    3rd Qu.: 19.00      3rd Qu.:264.0      3rd Qu.:1229.5
##   Max.   :210.00    Max.   :143.00      Max.   :518.0      Max.   :1440.0
##      Calories
##   Min.   :   0
##   1st Qu.:1828
##   Median :2134
##   Mean   :2304
##   3rd Qu.:2793
##   Max.   :4900
```

Statistical Summary for dailyActivity Table:
The summary unveils key metrics such as 'TotalSteps,'
'VeryActiveMinutes,' and 'Calories.'
TotalSteps range from 0 to 36,019, indicating diverse activity levels.
VeryActiveMinutes have a median of 4, emphasizing varied engagement in
intense activities.
Calories exhibit a broad range, with a median of 2,134, showcasing
diverse energy expenditures.
This summary sets the stage for in-depth exploration, highlighting
potential patterns and outliers.

Data Quality Issues Discovered in dailyActivity:
1. Variable Naming:Addressing non-uniform variable names, applying a
consistent snake_case convention for clarity.
2. Data Types:Converting 'ActivityDate' from character to Date type for

improved date-related operations.
###These data quality issues will be systematically resolved in the cleaning phase to ensure the integrity and accuracy of our data set.

######### To view the structure of the dailyCalories table.
`View`(dailyCalories)

######### To get the dimensions (number of rows and columns) of the dailyCalories table.
`dim`(dailyCalories)

```
## [1] 940    3
```

######### The dailyCalories table has 940 rows and 3 columns.

######### To display the first few rows of the dailyCalories table.
`head`(dailyCalories)

```
##            Id ActivityDay Calories
## 1 1503960366   4/12/2016     1985
## 2 1503960366   4/13/2016     1797
## 3 1503960366   4/14/2016     1776
## 4 1503960366   4/15/2016     1745
## 5 1503960366   4/16/2016     1863
## 6 1503960366   4/17/2016     1728
```

######### The 'dailyCalories' table contains information about daily calorie counts for different users.
######### The columns include 'Id' (user identifier), 'ActivityDay' (date), and 'Calories.'
######### The first six rows represent the calorie data for user with Id 1503960366 from 4/12/2016 to 4/17/2016.

######### To display the last few rows of the dailyCalories table.
`tail`(dailyCalories)

```
##              Id ActivityDay Calories
## 935 8877689391    5/7/2016     4142
## 936 8877689391    5/8/2016     2847
## 937 8877689391    5/9/2016     3710
## 938 8877689391   5/10/2016     2832
## 939 8877689391   5/11/2016     3832
## 940 8877689391   5/12/2016     1849
```

######### The last six rows of the 'dailyCalories' table represent the calorie data for the user with Id 8877689391.
######### The data spans from 5/7/2016 to 5/12/2016, providing a snapshot of daily calorie counts during this period.

######### To display the structure of the 'dailyCalories' table.
`str`(dailyCalories)

```
## 'data.frame':    940 obs. of  3 variables:
##  $ Id         : num  1.5e+09 1.5e+09 1.5e+09 1.5e+09 1.5e+09 ...
##  $ ActivityDay: chr  "4/12/2016" "4/13/2016" "4/14/2016" "4/15/2016" ...
##  $ Calories   : int  1985 1797 1776 1745 1863 1728 1921 2035 1786 1775 ...
```

######### The 'dailyCalories' table has three variables: 'Id,' 'ActivityDay,' and 'Calories.

######### 'ActivityDay' is identified as a character variable,and will be addressed in the cleaning phase to convert it to the date format.
######### 'Calories' is correctly identified as an integer variable.

######### To provide a concise glimpse into the 'dailyCalories' table.
glimpse(dailyCalories)

```
## Rows: 940
## Columns: 3
## $ Id          <dbl> 1503960366, 1503960366, 1503960366, 1503960366,
1503960366…
## $ ActivityDay <chr> "4/12/2016", "4/13/2016", "4/14/2016", "4/15/2016",
"4/16/…
## $ Calories    <int> 1985, 1797, 1776, 1745, 1863, 1728, 1921, 2035, 1786,
1775…
```

######### To display the column names of the 'dailyCalories' table.
names(dailyCalories)

```
## [1] "Id"          "ActivityDay" "Calories"
```

######### The 'dailyCalories' table columns are named 'Id,' 'ActivityDay,' and 'Calories.'
######### While the names are generally descriptive, they would be improved for better clarity and consistency in the cleaning phase.

######### To show the distinct values in the 'Id' column of the 'dailyCalories' table.
distinct(dailyCalories, Id)

```
##            Id
## 1  1503960366
## 2  1624580081
## 3  1644430081
## 4  1844505072
## 5  1927972279
## 6  2022484408
## 7  2026352035
## 8  2320127002
## 9  2347167796
## 10 2873212765
## 11 3372868164
## 12 3977333714
```

```
## 13 4020332650
## 14 4057192912
## 15 4319703577
## 16 4388161847
## 17 4445114986
## 18 4558609924
## 19 4702921684
## 20 5553957443
## 21 5577150313
## 22 6117666160
## 23 6290855005
## 24 6775888955
## 25 6962181067
## 26 7007744171
## 27 7086361926
## 28 8053475328
## 29 8253242879
## 30 8378563200
## 31 8583815059
## 32 8792009665
## 33 8877689391
```

######### *The 'dailyCalories' table contains user IDs (Id), and there are 33 unique users present in the dataset.*
######### *Understanding individual user data will enable personalized insights in later stages of the analysis.*

######### *To check for missing values in the 'dailyCalories' table.*
is.na(dailyCalories)

```
##            Id ActivityDay Calories
##  [1,] FALSE       FALSE    FALSE
##  [2,] FALSE       FALSE    FALSE
##  [3,] FALSE       FALSE    FALSE
##  [4,] FALSE       FALSE    FALSE
##  [5,] FALSE       FALSE    FALSE
##  [6,] FALSE       FALSE    FALSE
##  [7,] FALSE       FALSE    FALSE
##  [8,] FALSE       FALSE    FALSE
##  [9,] FALSE       FALSE    FALSE
## [10,] FALSE       FALSE    FALSE
## [11,] FALSE       FALSE    FALSE
## [12,] FALSE       FALSE    FALSE
## [13,] FALSE       FALSE    FALSE
## [14,] FALSE       FALSE    FALSE
## [15,] FALSE       FALSE    FALSE
## [16,] FALSE       FALSE    FALSE
## [17,] FALSE       FALSE    FALSE
## [18,] FALSE       FALSE    FALSE
## [19,] FALSE       FALSE    FALSE
```

```
##  [20,] FALSE        FALSE      FALSE
##  [21,] FALSE        FALSE      FALSE
##  [22,] FALSE        FALSE      FALSE
##  [23,] FALSE        FALSE      FALSE
##  [24,] FALSE        FALSE      FALSE
##  [25,] FALSE        FALSE      FALSE
##  [26,] FALSE        FALSE      FALSE
##  [27,] FALSE        FALSE      FALSE
##  [28,] FALSE        FALSE      FALSE
##  [29,] FALSE        FALSE      FALSE
##  [30,] FALSE        FALSE      FALSE
##  [31,] FALSE        FALSE      FALSE
##  [32,] FALSE        FALSE      FALSE
##  [33,] FALSE        FALSE      FALSE
##  [34,] FALSE        FALSE      FALSE
##  [35,] FALSE        FALSE      FALSE
##  [36,] FALSE        FALSE      FALSE
##  [37,] FALSE        FALSE      FALSE
##  [38,] FALSE        FALSE      FALSE
##  [39,] FALSE        FALSE      FALSE
##  [40,] FALSE        FALSE      FALSE
##  [41,] FALSE        FALSE      FALSE
##  [42,] FALSE        FALSE      FALSE
##  [43,] FALSE        FALSE      FALSE
##  [44,] FALSE        FALSE      FALSE
##  [45,] FALSE        FALSE      FALSE
##  [46,] FALSE        FALSE      FALSE
##  [47,] FALSE        FALSE      FALSE
##  [48,] FALSE        FALSE      FALSE
##  [49,] FALSE        FALSE      FALSE
##  [50,] FALSE        FALSE      FALSE
##  [51,] FALSE        FALSE      FALSE
##  [52,] FALSE        FALSE      FALSE
##  [53,] FALSE        FALSE      FALSE
##  [54,] FALSE        FALSE      FALSE
##  [55,] FALSE        FALSE      FALSE
##  [56,] FALSE        FALSE      FALSE
##  [57,] FALSE        FALSE      FALSE
##  [58,] FALSE        FALSE      FALSE
##  [59,] FALSE        FALSE      FALSE
##  [60,] FALSE        FALSE      FALSE
##  [61,] FALSE        FALSE      FALSE
##  [62,] FALSE        FALSE      FALSE
##  [63,] FALSE        FALSE      FALSE
##  [64,] FALSE        FALSE      FALSE
##  [65,] FALSE        FALSE      FALSE
##  [66,] FALSE        FALSE      FALSE
##  [67,] FALSE        FALSE      FALSE
##  [68,] FALSE        FALSE      FALSE
##  [69,] FALSE        FALSE      FALSE
```

```
##  [70,] FALSE        FALSE        FALSE
##  [71,] FALSE        FALSE        FALSE
##  [72,] FALSE        FALSE        FALSE
##  [73,] FALSE        FALSE        FALSE
##  [74,] FALSE        FALSE        FALSE
##  [75,] FALSE        FALSE        FALSE
##  [76,] FALSE        FALSE        FALSE
##  [77,] FALSE        FALSE        FALSE
##  [78,] FALSE        FALSE        FALSE
##  [79,] FALSE        FALSE        FALSE
##  [80,] FALSE        FALSE        FALSE
##  [81,] FALSE        FALSE        FALSE
##  [82,] FALSE        FALSE        FALSE
##  [83,] FALSE        FALSE        FALSE
##  [84,] FALSE        FALSE        FALSE
##  [85,] FALSE        FALSE        FALSE
##  [86,] FALSE        FALSE        FALSE
##  [87,] FALSE        FALSE        FALSE
##  [88,] FALSE        FALSE        FALSE
##  [89,] FALSE        FALSE        FALSE
##  [90,] FALSE        FALSE        FALSE
##  [91,] FALSE        FALSE        FALSE
##  [92,] FALSE        FALSE        FALSE
##  [93,] FALSE        FALSE        FALSE
##  [94,] FALSE        FALSE        FALSE
##  [95,] FALSE        FALSE        FALSE
##  [96,] FALSE        FALSE        FALSE
##  [97,] FALSE        FALSE        FALSE
##  [98,] FALSE        FALSE        FALSE
##  [99,] FALSE        FALSE        FALSE
## [100,] FALSE        FALSE        FALSE
## [101,] FALSE        FALSE        FALSE
## [102,] FALSE        FALSE        FALSE
## [103,] FALSE        FALSE        FALSE
## [104,] FALSE        FALSE        FALSE
## [105,] FALSE        FALSE        FALSE
## [106,] FALSE        FALSE        FALSE
## [107,] FALSE        FALSE        FALSE
## [108,] FALSE        FALSE        FALSE
## [109,] FALSE        FALSE        FALSE
## [110,] FALSE        FALSE        FALSE
## [111,] FALSE        FALSE        FALSE
## [112,] FALSE        FALSE        FALSE
## [113,] FALSE        FALSE        FALSE
## [114,] FALSE        FALSE        FALSE
## [115,] FALSE        FALSE        FALSE
## [116,] FALSE        FALSE        FALSE
## [117,] FALSE        FALSE        FALSE
## [118,] FALSE        FALSE        FALSE
## [119,] FALSE        FALSE        FALSE
```

```
## [120,] FALSE        FALSE      FALSE
## [121,] FALSE        FALSE      FALSE
## [122,] FALSE        FALSE      FALSE
## [123,] FALSE        FALSE      FALSE
## [124,] FALSE        FALSE      FALSE
## [125,] FALSE        FALSE      FALSE
## [126,] FALSE        FALSE      FALSE
## [127,] FALSE        FALSE      FALSE
## [128,] FALSE        FALSE      FALSE
## [129,] FALSE        FALSE      FALSE
## [130,] FALSE        FALSE      FALSE
## [131,] FALSE        FALSE      FALSE
## [132,] FALSE        FALSE      FALSE
## [133,] FALSE        FALSE      FALSE
## [134,] FALSE        FALSE      FALSE
## [135,] FALSE        FALSE      FALSE
## [136,] FALSE        FALSE      FALSE
## [137,] FALSE        FALSE      FALSE
## [138,] FALSE        FALSE      FALSE
## [139,] FALSE        FALSE      FALSE
## [140,] FALSE        FALSE      FALSE
## [141,] FALSE        FALSE      FALSE
## [142,] FALSE        FALSE      FALSE
## [143,] FALSE        FALSE      FALSE
## [144,] FALSE        FALSE      FALSE
## [145,] FALSE        FALSE      FALSE
## [146,] FALSE        FALSE      FALSE
## [147,] FALSE        FALSE      FALSE
## [148,] FALSE        FALSE      FALSE
## [149,] FALSE        FALSE      FALSE
## [150,] FALSE        FALSE      FALSE
## [151,] FALSE        FALSE      FALSE
## [152,] FALSE        FALSE      FALSE
## [153,] FALSE        FALSE      FALSE
## [154,] FALSE        FALSE      FALSE
## [155,] FALSE        FALSE      FALSE
## [156,] FALSE        FALSE      FALSE
## [157,] FALSE        FALSE      FALSE
## [158,] FALSE        FALSE      FALSE
## [159,] FALSE        FALSE      FALSE
## [160,] FALSE        FALSE      FALSE
## [161,] FALSE        FALSE      FALSE
## [162,] FALSE        FALSE      FALSE
## [163,] FALSE        FALSE      FALSE
## [164,] FALSE        FALSE      FALSE
## [165,] FALSE        FALSE      FALSE
## [166,] FALSE        FALSE      FALSE
## [167,] FALSE        FALSE      FALSE
## [168,] FALSE        FALSE      FALSE
## [169,] FALSE        FALSE      FALSE
```

```
## [170,] FALSE        FALSE        FALSE
## [171,] FALSE        FALSE        FALSE
## [172,] FALSE        FALSE        FALSE
## [173,] FALSE        FALSE        FALSE
## [174,] FALSE        FALSE        FALSE
## [175,] FALSE        FALSE        FALSE
## [176,] FALSE        FALSE        FALSE
## [177,] FALSE        FALSE        FALSE
## [178,] FALSE        FALSE        FALSE
## [179,] FALSE        FALSE        FALSE
## [180,] FALSE        FALSE        FALSE
## [181,] FALSE        FALSE        FALSE
## [182,] FALSE        FALSE        FALSE
## [183,] FALSE        FALSE        FALSE
## [184,] FALSE        FALSE        FALSE
## [185,] FALSE        FALSE        FALSE
## [186,] FALSE        FALSE        FALSE
## [187,] FALSE        FALSE        FALSE
## [188,] FALSE        FALSE        FALSE
## [189,] FALSE        FALSE        FALSE
## [190,] FALSE        FALSE        FALSE
## [191,] FALSE        FALSE        FALSE
## [192,] FALSE        FALSE        FALSE
## [193,] FALSE        FALSE        FALSE
## [194,] FALSE        FALSE        FALSE
## [195,] FALSE        FALSE        FALSE
## [196,] FALSE        FALSE        FALSE
## [197,] FALSE        FALSE        FALSE
## [198,] FALSE        FALSE        FALSE
## [199,] FALSE        FALSE        FALSE
## [200,] FALSE        FALSE        FALSE
## [201,] FALSE        FALSE        FALSE
## [202,] FALSE        FALSE        FALSE
## [203,] FALSE        FALSE        FALSE
## [204,] FALSE        FALSE        FALSE
## [205,] FALSE        FALSE        FALSE
## [206,] FALSE        FALSE        FALSE
## [207,] FALSE        FALSE        FALSE
## [208,] FALSE        FALSE        FALSE
## [209,] FALSE        FALSE        FALSE
## [210,] FALSE        FALSE        FALSE
## [211,] FALSE        FALSE        FALSE
## [212,] FALSE        FALSE        FALSE
## [213,] FALSE        FALSE        FALSE
## [214,] FALSE        FALSE        FALSE
## [215,] FALSE        FALSE        FALSE
## [216,] FALSE        FALSE        FALSE
## [217,] FALSE        FALSE        FALSE
## [218,] FALSE        FALSE        FALSE
## [219,] FALSE        FALSE        FALSE
```

```
## [220,] FALSE        FALSE        FALSE
## [221,] FALSE        FALSE        FALSE
## [222,] FALSE        FALSE        FALSE
## [223,] FALSE        FALSE        FALSE
## [224,] FALSE        FALSE        FALSE
## [225,] FALSE        FALSE        FALSE
## [226,] FALSE        FALSE        FALSE
## [227,] FALSE        FALSE        FALSE
## [228,] FALSE        FALSE        FALSE
## [229,] FALSE        FALSE        FALSE
## [230,] FALSE        FALSE        FALSE
## [231,] FALSE        FALSE        FALSE
## [232,] FALSE        FALSE        FALSE
## [233,] FALSE        FALSE        FALSE
## [234,] FALSE        FALSE        FALSE
## [235,] FALSE        FALSE        FALSE
## [236,] FALSE        FALSE        FALSE
## [237,] FALSE        FALSE        FALSE
## [238,] FALSE        FALSE        FALSE
## [239,] FALSE        FALSE        FALSE
## [240,] FALSE        FALSE        FALSE
## [241,] FALSE        FALSE        FALSE
## [242,] FALSE        FALSE        FALSE
## [243,] FALSE        FALSE        FALSE
## [244,] FALSE        FALSE        FALSE
## [245,] FALSE        FALSE        FALSE
## [246,] FALSE        FALSE        FALSE
## [247,] FALSE        FALSE        FALSE
## [248,] FALSE        FALSE        FALSE
## [249,] FALSE        FALSE        FALSE
## [250,] FALSE        FALSE        FALSE
## [251,] FALSE        FALSE        FALSE
## [252,] FALSE        FALSE        FALSE
## [253,] FALSE        FALSE        FALSE
## [254,] FALSE        FALSE        FALSE
## [255,] FALSE        FALSE        FALSE
## [256,] FALSE        FALSE        FALSE
## [257,] FALSE        FALSE        FALSE
## [258,] FALSE        FALSE        FALSE
## [259,] FALSE        FALSE        FALSE
## [260,] FALSE        FALSE        FALSE
## [261,] FALSE        FALSE        FALSE
## [262,] FALSE        FALSE        FALSE
## [263,] FALSE        FALSE        FALSE
## [264,] FALSE        FALSE        FALSE
## [265,] FALSE        FALSE        FALSE
## [266,] FALSE        FALSE        FALSE
## [267,] FALSE        FALSE        FALSE
## [268,] FALSE        FALSE        FALSE
## [269,] FALSE        FALSE        FALSE
```

```
## [270,] FALSE         FALSE       FALSE
## [271,] FALSE         FALSE       FALSE
## [272,] FALSE         FALSE       FALSE
## [273,] FALSE         FALSE       FALSE
## [274,] FALSE         FALSE       FALSE
## [275,] FALSE         FALSE       FALSE
## [276,] FALSE         FALSE       FALSE
## [277,] FALSE         FALSE       FALSE
## [278,] FALSE         FALSE       FALSE
## [279,] FALSE         FALSE       FALSE
## [280,] FALSE         FALSE       FALSE
## [281,] FALSE         FALSE       FALSE
## [282,] FALSE         FALSE       FALSE
## [283,] FALSE         FALSE       FALSE
## [284,] FALSE         FALSE       FALSE
## [285,] FALSE         FALSE       FALSE
## [286,] FALSE         FALSE       FALSE
## [287,] FALSE         FALSE       FALSE
## [288,] FALSE         FALSE       FALSE
## [289,] FALSE         FALSE       FALSE
## [290,] FALSE         FALSE       FALSE
## [291,] FALSE         FALSE       FALSE
## [292,] FALSE         FALSE       FALSE
## [293,] FALSE         FALSE       FALSE
## [294,] FALSE         FALSE       FALSE
## [295,] FALSE         FALSE       FALSE
## [296,] FALSE         FALSE       FALSE
## [297,] FALSE         FALSE       FALSE
## [298,] FALSE         FALSE       FALSE
## [299,] FALSE         FALSE       FALSE
## [300,] FALSE         FALSE       FALSE
## [301,] FALSE         FALSE       FALSE
## [302,] FALSE         FALSE       FALSE
## [303,] FALSE         FALSE       FALSE
## [304,] FALSE         FALSE       FALSE
## [305,] FALSE         FALSE       FALSE
## [306,] FALSE         FALSE       FALSE
## [307,] FALSE         FALSE       FALSE
## [308,] FALSE         FALSE       FALSE
## [309,] FALSE         FALSE       FALSE
## [310,] FALSE         FALSE       FALSE
## [311,] FALSE         FALSE       FALSE
## [312,] FALSE         FALSE       FALSE
## [313,] FALSE         FALSE       FALSE
## [314,] FALSE         FALSE       FALSE
## [315,] FALSE         FALSE       FALSE
## [316,] FALSE         FALSE       FALSE
## [317,] FALSE         FALSE       FALSE
## [318,] FALSE         FALSE       FALSE
## [319,] FALSE         FALSE       FALSE
```

```
## [320,] FALSE        FALSE      FALSE
## [321,] FALSE        FALSE      FALSE
## [322,] FALSE        FALSE      FALSE
## [323,] FALSE        FALSE      FALSE
## [324,] FALSE        FALSE      FALSE
## [325,] FALSE        FALSE      FALSE
## [326,] FALSE        FALSE      FALSE
## [327,] FALSE        FALSE      FALSE
## [328,] FALSE        FALSE      FALSE
## [329,] FALSE        FALSE      FALSE
## [330,] FALSE        FALSE      FALSE
## [331,] FALSE        FALSE      FALSE
## [332,] FALSE        FALSE      FALSE
## [333,] FALSE        FALSE      FALSE
## [334,] FALSE        FALSE      FALSE
## [335,] FALSE        FALSE      FALSE
## [336,] FALSE        FALSE      FALSE
## [337,] FALSE        FALSE      FALSE
## [338,] FALSE        FALSE      FALSE
## [339,] FALSE        FALSE      FALSE
## [340,] FALSE        FALSE      FALSE
## [341,] FALSE        FALSE      FALSE
## [342,] FALSE        FALSE      FALSE
## [343,] FALSE        FALSE      FALSE
## [344,] FALSE        FALSE      FALSE
## [345,] FALSE        FALSE      FALSE
## [346,] FALSE        FALSE      FALSE
## [347,] FALSE        FALSE      FALSE
## [348,] FALSE        FALSE      FALSE
## [349,] FALSE        FALSE      FALSE
## [350,] FALSE        FALSE      FALSE
## [351,] FALSE        FALSE      FALSE
## [352,] FALSE        FALSE      FALSE
## [353,] FALSE        FALSE      FALSE
## [354,] FALSE        FALSE      FALSE
## [355,] FALSE        FALSE      FALSE
## [356,] FALSE        FALSE      FALSE
## [357,] FALSE        FALSE      FALSE
## [358,] FALSE        FALSE      FALSE
## [359,] FALSE        FALSE      FALSE
## [360,] FALSE        FALSE      FALSE
## [361,] FALSE        FALSE      FALSE
## [362,] FALSE        FALSE      FALSE
## [363,] FALSE        FALSE      FALSE
## [364,] FALSE        FALSE      FALSE
## [365,] FALSE        FALSE      FALSE
## [366,] FALSE        FALSE      FALSE
## [367,] FALSE        FALSE      FALSE
## [368,] FALSE        FALSE      FALSE
## [369,] FALSE        FALSE      FALSE
```

```
## [370,] FALSE        FALSE       FALSE
## [371,] FALSE        FALSE       FALSE
## [372,] FALSE        FALSE       FALSE
## [373,] FALSE        FALSE       FALSE
## [374,] FALSE        FALSE       FALSE
## [375,] FALSE        FALSE       FALSE
## [376,] FALSE        FALSE       FALSE
## [377,] FALSE        FALSE       FALSE
## [378,] FALSE        FALSE       FALSE
## [379,] FALSE        FALSE       FALSE
## [380,] FALSE        FALSE       FALSE
## [381,] FALSE        FALSE       FALSE
## [382,] FALSE        FALSE       FALSE
## [383,] FALSE        FALSE       FALSE
## [384,] FALSE        FALSE       FALSE
## [385,] FALSE        FALSE       FALSE
## [386,] FALSE        FALSE       FALSE
## [387,] FALSE        FALSE       FALSE
## [388,] FALSE        FALSE       FALSE
## [389,] FALSE        FALSE       FALSE
## [390,] FALSE        FALSE       FALSE
## [391,] FALSE        FALSE       FALSE
## [392,] FALSE        FALSE       FALSE
## [393,] FALSE        FALSE       FALSE
## [394,] FALSE        FALSE       FALSE
## [395,] FALSE        FALSE       FALSE
## [396,] FALSE        FALSE       FALSE
## [397,] FALSE        FALSE       FALSE
## [398,] FALSE        FALSE       FALSE
## [399,] FALSE        FALSE       FALSE
## [400,] FALSE        FALSE       FALSE
## [401,] FALSE        FALSE       FALSE
## [402,] FALSE        FALSE       FALSE
## [403,] FALSE        FALSE       FALSE
## [404,] FALSE        FALSE       FALSE
## [405,] FALSE        FALSE       FALSE
## [406,] FALSE        FALSE       FALSE
## [407,] FALSE        FALSE       FALSE
## [408,] FALSE        FALSE       FALSE
## [409,] FALSE        FALSE       FALSE
## [410,] FALSE        FALSE       FALSE
## [411,] FALSE        FALSE       FALSE
## [412,] FALSE        FALSE       FALSE
## [413,] FALSE        FALSE       FALSE
## [414,] FALSE        FALSE       FALSE
## [415,] FALSE        FALSE       FALSE
## [416,] FALSE        FALSE       FALSE
## [417,] FALSE        FALSE       FALSE
## [418,] FALSE        FALSE       FALSE
## [419,] FALSE        FALSE       FALSE
```

```
## [420,] FALSE       FALSE       FALSE
## [421,] FALSE       FALSE       FALSE
## [422,] FALSE       FALSE       FALSE
## [423,] FALSE       FALSE       FALSE
## [424,] FALSE       FALSE       FALSE
## [425,] FALSE       FALSE       FALSE
## [426,] FALSE       FALSE       FALSE
## [427,] FALSE       FALSE       FALSE
## [428,] FALSE       FALSE       FALSE
## [429,] FALSE       FALSE       FALSE
## [430,] FALSE       FALSE       FALSE
## [431,] FALSE       FALSE       FALSE
## [432,] FALSE       FALSE       FALSE
## [433,] FALSE       FALSE       FALSE
## [434,] FALSE       FALSE       FALSE
## [435,] FALSE       FALSE       FALSE
## [436,] FALSE       FALSE       FALSE
## [437,] FALSE       FALSE       FALSE
## [438,] FALSE       FALSE       FALSE
## [439,] FALSE       FALSE       FALSE
## [440,] FALSE       FALSE       FALSE
## [441,] FALSE       FALSE       FALSE
## [442,] FALSE       FALSE       FALSE
## [443,] FALSE       FALSE       FALSE
## [444,] FALSE       FALSE       FALSE
## [445,] FALSE       FALSE       FALSE
## [446,] FALSE       FALSE       FALSE
## [447,] FALSE       FALSE       FALSE
## [448,] FALSE       FALSE       FALSE
## [449,] FALSE       FALSE       FALSE
## [450,] FALSE       FALSE       FALSE
## [451,] FALSE       FALSE       FALSE
## [452,] FALSE       FALSE       FALSE
## [453,] FALSE       FALSE       FALSE
## [454,] FALSE       FALSE       FALSE
## [455,] FALSE       FALSE       FALSE
## [456,] FALSE       FALSE       FALSE
## [457,] FALSE       FALSE       FALSE
## [458,] FALSE       FALSE       FALSE
## [459,] FALSE       FALSE       FALSE
## [460,] FALSE       FALSE       FALSE
## [461,] FALSE       FALSE       FALSE
## [462,] FALSE       FALSE       FALSE
## [463,] FALSE       FALSE       FALSE
## [464,] FALSE       FALSE       FALSE
## [465,] FALSE       FALSE       FALSE
## [466,] FALSE       FALSE       FALSE
## [467,] FALSE       FALSE       FALSE
## [468,] FALSE       FALSE       FALSE
## [469,] FALSE       FALSE       FALSE
```

```
## [470,] FALSE        FALSE        FALSE
## [471,] FALSE        FALSE        FALSE
## [472,] FALSE        FALSE        FALSE
## [473,] FALSE        FALSE        FALSE
## [474,] FALSE        FALSE        FALSE
## [475,] FALSE        FALSE        FALSE
## [476,] FALSE        FALSE        FALSE
## [477,] FALSE        FALSE        FALSE
## [478,] FALSE        FALSE        FALSE
## [479,] FALSE        FALSE        FALSE
## [480,] FALSE        FALSE        FALSE
## [481,] FALSE        FALSE        FALSE
## [482,] FALSE        FALSE        FALSE
## [483,] FALSE        FALSE        FALSE
## [484,] FALSE        FALSE        FALSE
## [485,] FALSE        FALSE        FALSE
## [486,] FALSE        FALSE        FALSE
## [487,] FALSE        FALSE        FALSE
## [488,] FALSE        FALSE        FALSE
## [489,] FALSE        FALSE        FALSE
## [490,] FALSE        FALSE        FALSE
## [491,] FALSE        FALSE        FALSE
## [492,] FALSE        FALSE        FALSE
## [493,] FALSE        FALSE        FALSE
## [494,] FALSE        FALSE        FALSE
## [495,] FALSE        FALSE        FALSE
## [496,] FALSE        FALSE        FALSE
## [497,] FALSE        FALSE        FALSE
## [498,] FALSE        FALSE        FALSE
## [499,] FALSE        FALSE        FALSE
## [500,] FALSE        FALSE        FALSE
## [501,] FALSE        FALSE        FALSE
## [502,] FALSE        FALSE        FALSE
## [503,] FALSE        FALSE        FALSE
## [504,] FALSE        FALSE        FALSE
## [505,] FALSE        FALSE        FALSE
## [506,] FALSE        FALSE        FALSE
## [507,] FALSE        FALSE        FALSE
## [508,] FALSE        FALSE        FALSE
## [509,] FALSE        FALSE        FALSE
## [510,] FALSE        FALSE        FALSE
## [511,] FALSE        FALSE        FALSE
## [512,] FALSE        FALSE        FALSE
## [513,] FALSE        FALSE        FALSE
## [514,] FALSE        FALSE        FALSE
## [515,] FALSE        FALSE        FALSE
## [516,] FALSE        FALSE        FALSE
## [517,] FALSE        FALSE        FALSE
## [518,] FALSE        FALSE        FALSE
## [519,] FALSE        FALSE        FALSE
```

```
## [520,] FALSE        FALSE        FALSE
## [521,] FALSE        FALSE        FALSE
## [522,] FALSE        FALSE        FALSE
## [523,] FALSE        FALSE        FALSE
## [524,] FALSE        FALSE        FALSE
## [525,] FALSE        FALSE        FALSE
## [526,] FALSE        FALSE        FALSE
## [527,] FALSE        FALSE        FALSE
## [528,] FALSE        FALSE        FALSE
## [529,] FALSE        FALSE        FALSE
## [530,] FALSE        FALSE        FALSE
## [531,] FALSE        FALSE        FALSE
## [532,] FALSE        FALSE        FALSE
## [533,] FALSE        FALSE        FALSE
## [534,] FALSE        FALSE        FALSE
## [535,] FALSE        FALSE        FALSE
## [536,] FALSE        FALSE        FALSE
## [537,] FALSE        FALSE        FALSE
## [538,] FALSE        FALSE        FALSE
## [539,] FALSE        FALSE        FALSE
## [540,] FALSE        FALSE        FALSE
## [541,] FALSE        FALSE        FALSE
## [542,] FALSE        FALSE        FALSE
## [543,] FALSE        FALSE        FALSE
## [544,] FALSE        FALSE        FALSE
## [545,] FALSE        FALSE        FALSE
## [546,] FALSE        FALSE        FALSE
## [547,] FALSE        FALSE        FALSE
## [548,] FALSE        FALSE        FALSE
## [549,] FALSE        FALSE        FALSE
## [550,] FALSE        FALSE        FALSE
## [551,] FALSE        FALSE        FALSE
## [552,] FALSE        FALSE        FALSE
## [553,] FALSE        FALSE        FALSE
## [554,] FALSE        FALSE        FALSE
## [555,] FALSE        FALSE        FALSE
## [556,] FALSE        FALSE        FALSE
## [557,] FALSE        FALSE        FALSE
## [558,] FALSE        FALSE        FALSE
## [559,] FALSE        FALSE        FALSE
## [560,] FALSE        FALSE        FALSE
## [561,] FALSE        FALSE        FALSE
## [562,] FALSE        FALSE        FALSE
## [563,] FALSE        FALSE        FALSE
## [564,] FALSE        FALSE        FALSE
## [565,] FALSE        FALSE        FALSE
## [566,] FALSE        FALSE        FALSE
## [567,] FALSE        FALSE        FALSE
## [568,] FALSE        FALSE        FALSE
## [569,] FALSE        FALSE        FALSE
```

```
## [570,] FALSE        FALSE        FALSE
## [571,] FALSE        FALSE        FALSE
## [572,] FALSE        FALSE        FALSE
## [573,] FALSE        FALSE        FALSE
## [574,] FALSE        FALSE        FALSE
## [575,] FALSE        FALSE        FALSE
## [576,] FALSE        FALSE        FALSE
## [577,] FALSE        FALSE        FALSE
## [578,] FALSE        FALSE        FALSE
## [579,] FALSE        FALSE        FALSE
## [580,] FALSE        FALSE        FALSE
## [581,] FALSE        FALSE        FALSE
## [582,] FALSE        FALSE        FALSE
## [583,] FALSE        FALSE        FALSE
## [584,] FALSE        FALSE        FALSE
## [585,] FALSE        FALSE        FALSE
## [586,] FALSE        FALSE        FALSE
## [587,] FALSE        FALSE        FALSE
## [588,] FALSE        FALSE        FALSE
## [589,] FALSE        FALSE        FALSE
## [590,] FALSE        FALSE        FALSE
## [591,] FALSE        FALSE        FALSE
## [592,] FALSE        FALSE        FALSE
## [593,] FALSE        FALSE        FALSE
## [594,] FALSE        FALSE        FALSE
## [595,] FALSE        FALSE        FALSE
## [596,] FALSE        FALSE        FALSE
## [597,] FALSE        FALSE        FALSE
## [598,] FALSE        FALSE        FALSE
## [599,] FALSE        FALSE        FALSE
## [600,] FALSE        FALSE        FALSE
## [601,] FALSE        FALSE        FALSE
## [602,] FALSE        FALSE        FALSE
## [603,] FALSE        FALSE        FALSE
## [604,] FALSE        FALSE        FALSE
## [605,] FALSE        FALSE        FALSE
## [606,] FALSE        FALSE        FALSE
## [607,] FALSE        FALSE        FALSE
## [608,] FALSE        FALSE        FALSE
## [609,] FALSE        FALSE        FALSE
## [610,] FALSE        FALSE        FALSE
## [611,] FALSE        FALSE        FALSE
## [612,] FALSE        FALSE        FALSE
## [613,] FALSE        FALSE        FALSE
## [614,] FALSE        FALSE        FALSE
## [615,] FALSE        FALSE        FALSE
## [616,] FALSE        FALSE        FALSE
## [617,] FALSE        FALSE        FALSE
## [618,] FALSE        FALSE        FALSE
## [619,] FALSE        FALSE        FALSE
```

```
## [620,]  FALSE          FALSE          FALSE
## [621,]  FALSE          FALSE          FALSE
## [622,]  FALSE          FALSE          FALSE
## [623,]  FALSE          FALSE          FALSE
## [624,]  FALSE          FALSE          FALSE
## [625,]  FALSE          FALSE          FALSE
## [626,]  FALSE          FALSE          FALSE
## [627,]  FALSE          FALSE          FALSE
## [628,]  FALSE          FALSE          FALSE
## [629,]  FALSE          FALSE          FALSE
## [630,]  FALSE          FALSE          FALSE
## [631,]  FALSE          FALSE          FALSE
## [632,]  FALSE          FALSE          FALSE
## [633,]  FALSE          FALSE          FALSE
## [634,]  FALSE          FALSE          FALSE
## [635,]  FALSE          FALSE          FALSE
## [636,]  FALSE          FALSE          FALSE
## [637,]  FALSE          FALSE          FALSE
## [638,]  FALSE          FALSE          FALSE
## [639,]  FALSE          FALSE          FALSE
## [640,]  FALSE          FALSE          FALSE
## [641,]  FALSE          FALSE          FALSE
## [642,]  FALSE          FALSE          FALSE
## [643,]  FALSE          FALSE          FALSE
## [644,]  FALSE          FALSE          FALSE
## [645,]  FALSE          FALSE          FALSE
## [646,]  FALSE          FALSE          FALSE
## [647,]  FALSE          FALSE          FALSE
## [648,]  FALSE          FALSE          FALSE
## [649,]  FALSE          FALSE          FALSE
## [650,]  FALSE          FALSE          FALSE
## [651,]  FALSE          FALSE          FALSE
## [652,]  FALSE          FALSE          FALSE
## [653,]  FALSE          FALSE          FALSE
## [654,]  FALSE          FALSE          FALSE
## [655,]  FALSE          FALSE          FALSE
## [656,]  FALSE          FALSE          FALSE
## [657,]  FALSE          FALSE          FALSE
## [658,]  FALSE          FALSE          FALSE
## [659,]  FALSE          FALSE          FALSE
## [660,]  FALSE          FALSE          FALSE
## [661,]  FALSE          FALSE          FALSE
## [662,]  FALSE          FALSE          FALSE
## [663,]  FALSE          FALSE          FALSE
## [664,]  FALSE          FALSE          FALSE
## [665,]  FALSE          FALSE          FALSE
## [666,]  FALSE          FALSE          FALSE
## [667,]  FALSE          FALSE          FALSE
## [668,]  FALSE          FALSE          FALSE
## [669,]  FALSE          FALSE          FALSE
```

```
## [670,] FALSE          FALSE        FALSE
## [671,] FALSE          FALSE        FALSE
## [672,] FALSE          FALSE        FALSE
## [673,] FALSE          FALSE        FALSE
## [674,] FALSE          FALSE        FALSE
## [675,] FALSE          FALSE        FALSE
## [676,] FALSE          FALSE        FALSE
## [677,] FALSE          FALSE        FALSE
## [678,] FALSE          FALSE        FALSE
## [679,] FALSE          FALSE        FALSE
## [680,] FALSE          FALSE        FALSE
## [681,] FALSE          FALSE        FALSE
## [682,] FALSE          FALSE        FALSE
## [683,] FALSE          FALSE        FALSE
## [684,] FALSE          FALSE        FALSE
## [685,] FALSE          FALSE        FALSE
## [686,] FALSE          FALSE        FALSE
## [687,] FALSE          FALSE        FALSE
## [688,] FALSE          FALSE        FALSE
## [689,] FALSE          FALSE        FALSE
## [690,] FALSE          FALSE        FALSE
## [691,] FALSE          FALSE        FALSE
## [692,] FALSE          FALSE        FALSE
## [693,] FALSE          FALSE        FALSE
## [694,] FALSE          FALSE        FALSE
## [695,] FALSE          FALSE        FALSE
## [696,] FALSE          FALSE        FALSE
## [697,] FALSE          FALSE        FALSE
## [698,] FALSE          FALSE        FALSE
## [699,] FALSE          FALSE        FALSE
## [700,] FALSE          FALSE        FALSE
## [701,] FALSE          FALSE        FALSE
## [702,] FALSE          FALSE        FALSE
## [703,] FALSE          FALSE        FALSE
## [704,] FALSE          FALSE        FALSE
## [705,] FALSE          FALSE        FALSE
## [706,] FALSE          FALSE        FALSE
## [707,] FALSE          FALSE        FALSE
## [708,] FALSE          FALSE        FALSE
## [709,] FALSE          FALSE        FALSE
## [710,] FALSE          FALSE        FALSE
## [711,] FALSE          FALSE        FALSE
## [712,] FALSE          FALSE        FALSE
## [713,] FALSE          FALSE        FALSE
## [714,] FALSE          FALSE        FALSE
## [715,] FALSE          FALSE        FALSE
## [716,] FALSE          FALSE        FALSE
## [717,] FALSE          FALSE        FALSE
## [718,] FALSE          FALSE        FALSE
## [719,] FALSE          FALSE        FALSE
```

```
## [720,] FALSE        FALSE       FALSE
## [721,] FALSE        FALSE       FALSE
## [722,] FALSE        FALSE       FALSE
## [723,] FALSE        FALSE       FALSE
## [724,] FALSE        FALSE       FALSE
## [725,] FALSE        FALSE       FALSE
## [726,] FALSE        FALSE       FALSE
## [727,] FALSE        FALSE       FALSE
## [728,] FALSE        FALSE       FALSE
## [729,] FALSE        FALSE       FALSE
## [730,] FALSE        FALSE       FALSE
## [731,] FALSE        FALSE       FALSE
## [732,] FALSE        FALSE       FALSE
## [733,] FALSE        FALSE       FALSE
## [734,] FALSE        FALSE       FALSE
## [735,] FALSE        FALSE       FALSE
## [736,] FALSE        FALSE       FALSE
## [737,] FALSE        FALSE       FALSE
## [738,] FALSE        FALSE       FALSE
## [739,] FALSE        FALSE       FALSE
## [740,] FALSE        FALSE       FALSE
## [741,] FALSE        FALSE       FALSE
## [742,] FALSE        FALSE       FALSE
## [743,] FALSE        FALSE       FALSE
## [744,] FALSE        FALSE       FALSE
## [745,] FALSE        FALSE       FALSE
## [746,] FALSE        FALSE       FALSE
## [747,] FALSE        FALSE       FALSE
## [748,] FALSE        FALSE       FALSE
## [749,] FALSE        FALSE       FALSE
## [750,] FALSE        FALSE       FALSE
## [751,] FALSE        FALSE       FALSE
## [752,] FALSE        FALSE       FALSE
## [753,] FALSE        FALSE       FALSE
## [754,] FALSE        FALSE       FALSE
## [755,] FALSE        FALSE       FALSE
## [756,] FALSE        FALSE       FALSE
## [757,] FALSE        FALSE       FALSE
## [758,] FALSE        FALSE       FALSE
## [759,] FALSE        FALSE       FALSE
## [760,] FALSE        FALSE       FALSE
## [761,] FALSE        FALSE       FALSE
## [762,] FALSE        FALSE       FALSE
## [763,] FALSE        FALSE       FALSE
## [764,] FALSE        FALSE       FALSE
## [765,] FALSE        FALSE       FALSE
## [766,] FALSE        FALSE       FALSE
## [767,] FALSE        FALSE       FALSE
## [768,] FALSE        FALSE       FALSE
## [769,] FALSE        FALSE       FALSE
```

```
## [770,] FALSE          FALSE        FALSE
## [771,] FALSE          FALSE        FALSE
## [772,] FALSE          FALSE        FALSE
## [773,] FALSE          FALSE        FALSE
## [774,] FALSE          FALSE        FALSE
## [775,] FALSE          FALSE        FALSE
## [776,] FALSE          FALSE        FALSE
## [777,] FALSE          FALSE        FALSE
## [778,] FALSE          FALSE        FALSE
## [779,] FALSE          FALSE        FALSE
## [780,] FALSE          FALSE        FALSE
## [781,] FALSE          FALSE        FALSE
## [782,] FALSE          FALSE        FALSE
## [783,] FALSE          FALSE        FALSE
## [784,] FALSE          FALSE        FALSE
## [785,] FALSE          FALSE        FALSE
## [786,] FALSE          FALSE        FALSE
## [787,] FALSE          FALSE        FALSE
## [788,] FALSE          FALSE        FALSE
## [789,] FALSE          FALSE        FALSE
## [790,] FALSE          FALSE        FALSE
## [791,] FALSE          FALSE        FALSE
## [792,] FALSE          FALSE        FALSE
## [793,] FALSE          FALSE        FALSE
## [794,] FALSE          FALSE        FALSE
## [795,] FALSE          FALSE        FALSE
## [796,] FALSE          FALSE        FALSE
## [797,] FALSE          FALSE        FALSE
## [798,] FALSE          FALSE        FALSE
## [799,] FALSE          FALSE        FALSE
## [800,] FALSE          FALSE        FALSE
## [801,] FALSE          FALSE        FALSE
## [802,] FALSE          FALSE        FALSE
## [803,] FALSE          FALSE        FALSE
## [804,] FALSE          FALSE        FALSE
## [805,] FALSE          FALSE        FALSE
## [806,] FALSE          FALSE        FALSE
## [807,] FALSE          FALSE        FALSE
## [808,] FALSE          FALSE        FALSE
## [809,] FALSE          FALSE        FALSE
## [810,] FALSE          FALSE        FALSE
## [811,] FALSE          FALSE        FALSE
## [812,] FALSE          FALSE        FALSE
## [813,] FALSE          FALSE        FALSE
## [814,] FALSE          FALSE        FALSE
## [815,] FALSE          FALSE        FALSE
## [816,] FALSE          FALSE        FALSE
## [817,] FALSE          FALSE        FALSE
## [818,] FALSE          FALSE        FALSE
## [819,] FALSE          FALSE        FALSE
```

```
## [820,] FALSE          FALSE          FALSE
## [821,] FALSE          FALSE          FALSE
## [822,] FALSE          FALSE          FALSE
## [823,] FALSE          FALSE          FALSE
## [824,] FALSE          FALSE          FALSE
## [825,] FALSE          FALSE          FALSE
## [826,] FALSE          FALSE          FALSE
## [827,] FALSE          FALSE          FALSE
## [828,] FALSE          FALSE          FALSE
## [829,] FALSE          FALSE          FALSE
## [830,] FALSE          FALSE          FALSE
## [831,] FALSE          FALSE          FALSE
## [832,] FALSE          FALSE          FALSE
## [833,] FALSE          FALSE          FALSE
## [834,] FALSE          FALSE          FALSE
## [835,] FALSE          FALSE          FALSE
## [836,] FALSE          FALSE          FALSE
## [837,] FALSE          FALSE          FALSE
## [838,] FALSE          FALSE          FALSE
## [839,] FALSE          FALSE          FALSE
## [840,] FALSE          FALSE          FALSE
## [841,] FALSE          FALSE          FALSE
## [842,] FALSE          FALSE          FALSE
## [843,] FALSE          FALSE          FALSE
## [844,] FALSE          FALSE          FALSE
## [845,] FALSE          FALSE          FALSE
## [846,] FALSE          FALSE          FALSE
## [847,] FALSE          FALSE          FALSE
## [848,] FALSE          FALSE          FALSE
## [849,] FALSE          FALSE          FALSE
## [850,] FALSE          FALSE          FALSE
## [851,] FALSE          FALSE          FALSE
## [852,] FALSE          FALSE          FALSE
## [853,] FALSE          FALSE          FALSE
## [854,] FALSE          FALSE          FALSE
## [855,] FALSE          FALSE          FALSE
## [856,] FALSE          FALSE          FALSE
## [857,] FALSE          FALSE          FALSE
## [858,] FALSE          FALSE          FALSE
## [859,] FALSE          FALSE          FALSE
## [860,] FALSE          FALSE          FALSE
## [861,] FALSE          FALSE          FALSE
## [862,] FALSE          FALSE          FALSE
## [863,] FALSE          FALSE          FALSE
## [864,] FALSE          FALSE          FALSE
## [865,] FALSE          FALSE          FALSE
## [866,] FALSE          FALSE          FALSE
## [867,] FALSE          FALSE          FALSE
## [868,] FALSE          FALSE          FALSE
## [869,] FALSE          FALSE          FALSE
```

```
## [870,] FALSE          FALSE          FALSE
## [871,] FALSE          FALSE          FALSE
## [872,] FALSE          FALSE          FALSE
## [873,] FALSE          FALSE          FALSE
## [874,] FALSE          FALSE          FALSE
## [875,] FALSE          FALSE          FALSE
## [876,] FALSE          FALSE          FALSE
## [877,] FALSE          FALSE          FALSE
## [878,] FALSE          FALSE          FALSE
## [879,] FALSE          FALSE          FALSE
## [880,] FALSE          FALSE          FALSE
## [881,] FALSE          FALSE          FALSE
## [882,] FALSE          FALSE          FALSE
## [883,] FALSE          FALSE          FALSE
## [884,] FALSE          FALSE          FALSE
## [885,] FALSE          FALSE          FALSE
## [886,] FALSE          FALSE          FALSE
## [887,] FALSE          FALSE          FALSE
## [888,] FALSE          FALSE          FALSE
## [889,] FALSE          FALSE          FALSE
## [890,] FALSE          FALSE          FALSE
## [891,] FALSE          FALSE          FALSE
## [892,] FALSE          FALSE          FALSE
## [893,] FALSE          FALSE          FALSE
## [894,] FALSE          FALSE          FALSE
## [895,] FALSE          FALSE          FALSE
## [896,] FALSE          FALSE          FALSE
## [897,] FALSE          FALSE          FALSE
## [898,] FALSE          FALSE          FALSE
## [899,] FALSE          FALSE          FALSE
## [900,] FALSE          FALSE          FALSE
## [901,] FALSE          FALSE          FALSE
## [902,] FALSE          FALSE          FALSE
## [903,] FALSE          FALSE          FALSE
## [904,] FALSE          FALSE          FALSE
## [905,] FALSE          FALSE          FALSE
## [906,] FALSE          FALSE          FALSE
## [907,] FALSE          FALSE          FALSE
## [908,] FALSE          FALSE          FALSE
## [909,] FALSE          FALSE          FALSE
## [910,] FALSE          FALSE          FALSE
## [911,] FALSE          FALSE          FALSE
## [912,] FALSE          FALSE          FALSE
## [913,] FALSE          FALSE          FALSE
## [914,] FALSE          FALSE          FALSE
## [915,] FALSE          FALSE          FALSE
## [916,] FALSE          FALSE          FALSE
## [917,] FALSE          FALSE          FALSE
## [918,] FALSE          FALSE          FALSE
## [919,] FALSE          FALSE          FALSE
```

```
## [920,] FALSE        FALSE      FALSE
## [921,] FALSE        FALSE      FALSE
## [922,] FALSE        FALSE      FALSE
## [923,] FALSE        FALSE      FALSE
## [924,] FALSE        FALSE      FALSE
## [925,] FALSE        FALSE      FALSE
## [926,] FALSE        FALSE      FALSE
## [927,] FALSE        FALSE      FALSE
## [928,] FALSE        FALSE      FALSE
## [929,] FALSE        FALSE      FALSE
## [930,] FALSE        FALSE      FALSE
## [931,] FALSE        FALSE      FALSE
## [932,] FALSE        FALSE      FALSE
## [933,] FALSE        FALSE      FALSE
## [934,] FALSE        FALSE      FALSE
## [935,] FALSE        FALSE      FALSE
## [936,] FALSE        FALSE      FALSE
## [937,] FALSE        FALSE      FALSE
## [938,] FALSE        FALSE      FALSE
## [939,] FALSE        FALSE      FALSE
## [940,] FALSE        FALSE      FALSE
```

```r
sum(is.na(dailyCalories))
```

```
## [1] 0
```

######### *There are no missing values in the 'dailyCalories' table, indicating completeness and data reliability.*

######### *To identify duplicated rows in the 'dailyCalories' table.*
```r
duplicated(dailyCalories$Id)
```

```
##   [1] FALSE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
 TRUE
##  [13]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
 TRUE
##  [25]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE FALSE  TRUE  TRUE  TRUE
 TRUE
##  [37]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
 TRUE
##  [49]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
 TRUE
##  [61]  TRUE  TRUE FALSE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
 TRUE
##  [73]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
 TRUE
##  [85]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE FALSE  TRUE  TRUE
 TRUE
##  [97]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
 TRUE
## [109]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
```

```
TRUE
## [121]  TRUE   TRUE   TRUE FALSE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [133]  TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [145]  TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE FALSE
TRUE
## [157]  TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [169]  TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [181]  TRUE   TRUE   TRUE   TRUE   TRUE FALSE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [193]  TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [205]  TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [217] FALSE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [229]  TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [241]  TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE FALSE   TRUE   TRUE   TRUE
TRUE
## [253]  TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [265]  TRUE FALSE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [277]  TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [289]  TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE FALSE   TRUE   TRUE
TRUE
## [301]  TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [313]  TRUE   TRUE   TRUE   TRUE FALSE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [325]  TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [337]  TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE FALSE
TRUE
## [349]  TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [361]  TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [373]  TRUE   TRUE   TRUE   TRUE   TRUE FALSE   TRUE   TRUE   TRUE FALSE   TRUE
TRUE
## [385]  TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [397]  TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [409]  TRUE   TRUE   TRUE   TRUE FALSE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
```

```
TRUE
## [421]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
TRUE
## [433]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
FALSE
## [445]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
TRUE
## [457]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
TRUE
## [469]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE FALSE  TRUE  TRUE  TRUE  TRUE
TRUE
## [481]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
TRUE
## [493]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
TRUE
## [505]  TRUE FALSE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
TRUE
## [517]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
TRUE
## [529]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE FALSE  TRUE  TRUE
TRUE
## [541]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
TRUE
## [553]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
TRUE
## [565]  TRUE  TRUE  TRUE FALSE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
TRUE
## [577]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
TRUE
## [589]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE FALSE  TRUE
TRUE
## [601]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
TRUE
## [613]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
TRUE
## [625]  TRUE FALSE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
TRUE
## [637]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
TRUE
## [649]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE FALSE  TRUE  TRUE  TRUE  TRUE
TRUE
## [661]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
TRUE
## [673]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE FALSE  TRUE  TRUE
TRUE
## [685]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
TRUE
## [697]  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
TRUE
## [709]  TRUE  TRUE  TRUE FALSE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
```

```
TRUE
## [721]   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [733]   TRUE   TRUE   TRUE   TRUE   TRUE FALSE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [745]   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [757]   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [769] FALSE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [781]   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [793]   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE FALSE   TRUE   TRUE   TRUE
TRUE
## [805]   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [817]   TRUE   TRUE FALSE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [829]   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [841]   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE FALSE   TRUE
TRUE
## [853]   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [865]   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [877]   TRUE   TRUE   TRUE   TRUE FALSE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [889]   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [901]   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE FALSE   TRUE
TRUE
## [913]   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [925]   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE   TRUE
TRUE
## [937]   TRUE   TRUE   TRUE   TRUE

dailyCalories[duplicated(dailyCalories),]

## [1] Id          ActivityDay Calories
## <0 rows> (or 0-length row.names)

######### The 'dailyCalories' dataset exhibits data integrity with no
duplicate rows.
######### All 33 unique users consistently engaged in activities over the 31
days of the month.

######### To get a statistical summary of the numerical columns in the
```

'dailyCalories' table.
```
summary(dailyCalories)
```

```
##        Id              ActivityDay          Calories
##  Min.   :1.504e+09   Length:940          Min.   :   0
##  1st Qu.:2.320e+09   Class :character    1st Qu.:1828
##  Median :4.445e+09   Mode  :character    Median :2134
##  Mean   :4.855e+09                       Mean   :2304
##  3rd Qu.:6.962e+09                       3rd Qu.:2793
##  Max.   :8.878e+09                       Max.   :4900
```

######### 'Id': User identifiers ranging from 1503960366 to 8877689391
######### 'ActivityDay': Date of activity recorded in character format, to be
converted to Date in the cleaning phase.
######### 'Calories': Caloric burn, ranging from 0 to 4900.
######### Note: Data type adjustments and naming improvements will be
addressed in the cleaning phase.

######### Data Quality Issues Identified in dailyCalories Exploration:
######### 1. Data Type Mismatch: ActivityDay (representing dates) is stored
as character; will be converted to Date for consistency.
######### 2. Variable Naming Consistency: Adjustments will be made for
clarity and consistency, e.g., renaming variables like Id.
######### These tasks in the cleaning phase aim to enhance data quality for
accurate analysis.

View function to display the structure of the dailySteps table.
```
View(dailySteps)
```

Dimension of the dailySteps table.
```
dim(dailySteps)
```

```
## [1] 940   3
```

The dailySteps table has 940 rows and 3 columns.

First 6 rows of the dailySteps table.
```
head(dailySteps)
```

```
##           Id ActivityDay StepTotal
## 1 1503960366   4/12/2016     13162
## 2 1503960366   4/13/2016     10735
## 3 1503960366   4/14/2016     10460
## 4 1503960366   4/15/2016      9762
## 5 1503960366   4/16/2016     12669
## 6 1503960366   4/17/2016      9705
```

The first six rows of the dailySteps table show the user ID, activity
day, and the total number of steps recorded.

```
### Last 6 rows of the dailySteps table.
tail(dailySteps)

##                Id ActivityDay StepTotal
## 935 8877689391     5/7/2016     12332
## 936 8877689391     5/8/2016     10686
## 937 8877689391     5/9/2016     20226
## 938 8877689391    5/10/2016     10733
## 939 8877689391    5/11/2016     21420
## 940 8877689391    5/12/2016      8064

### The last six rows of the dailySteps table show the user ID, activity day,
and the total number of steps recorded until May 12, 2016.

### Structure of the dailySteps table.
str(dailySteps)

## 'data.frame':    940 obs. of  3 variables:
##  $ Id         : num  1.5e+09 1.5e+09 1.5e+09 1.5e+09 1.5e+09 ...
##  $ ActivityDay: chr  "4/12/2016" "4/13/2016" "4/14/2016" "4/15/2016" ...
##  $ StepTotal  : int  13162 10735 10460 9762 12669 9705 13019 15506 10544
9819 ...

### The structure of the dailySteps table reveals three variables: user ID
(numeric), activity day (character), and the total number of steps.
### Both the ID and ActivityDay variables have data type issues that need to
be addressed in the cleaning phase.

### Glimpse function to get a glimpse of the dailySteps table.
glimpse(dailySteps)

## Rows: 940
## Columns: 3
## $ Id          <dbl> 1503960366, 1503960366, 1503960366, 1503960366,
1503960366…
## $ ActivityDay <chr> "4/12/2016", "4/13/2016", "4/14/2016", "4/15/2016",
"4/16/…
## $ StepTotal   <int> 13162, 10735, 10460, 9762, 12669, 9705, 13019, 15506,
1054…

### Names of columns in the dailySteps table.
names(dailySteps)

## [1] "Id"          "ActivityDay" "StepTotal"

### The variable names in the dailySteps table, such as "ActivityDay" and
"StepTotal,"
### should be converted to snake_case for better consistency.
### This naming convention will be applied in the cleaning phase.
```

```
### Distinct Ids in the dailySteps table.
distinct(dailySteps, Id)

##             Id
## 1   1503960366
## 2   1624580081
## 3   1644430081
## 4   1844505072
## 5   1927972279
## 6   2022484408
## 7   2026352035
## 8   2320127002
## 9   2347167796
## 10  2873212765
## 11  3372868164
## 12  3977333714
## 13  4020332650
## 14  4057192912
## 15  4319703577
## 16  4388161847
## 17  4445114986
## 18  4558609924
## 19  4702921684
## 20  5553957443
## 21  5577150313
## 22  6117666160
## 23  6290855005
## 24  6775888955
## 25  6962181067
## 26  7007744171
## 27  7086361926
## 28  8053475328
## 29  8253242879
## 30  8378563200
## 31  8583815059
## 32  8792009665
## 33  8877689391

### The dailySteps table contains data for 33 unique users with their
corresponding Ids.
### This information is essential for tracking user-specific step data
throughout the exploration.

### Checking for missing values in the dailySteps table.
is.na(dailySteps)

##             Id ActivityDay StepTotal
##    [1,] FALSE        FALSE     FALSE
##    [2,] FALSE        FALSE     FALSE
##    [3,] FALSE        FALSE     FALSE
```

```
##  [4,] FALSE        FALSE        FALSE
##  [5,] FALSE        FALSE        FALSE
##  [6,] FALSE        FALSE        FALSE
##  [7,] FALSE        FALSE        FALSE
##  [8,] FALSE        FALSE        FALSE
##  [9,] FALSE        FALSE        FALSE
## [10,] FALSE        FALSE        FALSE
## [11,] FALSE        FALSE        FALSE
## [12,] FALSE        FALSE        FALSE
## [13,] FALSE        FALSE        FALSE
## [14,] FALSE        FALSE        FALSE
## [15,] FALSE        FALSE        FALSE
## [16,] FALSE        FALSE        FALSE
## [17,] FALSE        FALSE        FALSE
## [18,] FALSE        FALSE        FALSE
## [19,] FALSE        FALSE        FALSE
## [20,] FALSE        FALSE        FALSE
## [21,] FALSE        FALSE        FALSE
## [22,] FALSE        FALSE        FALSE
## [23,] FALSE        FALSE        FALSE
## [24,] FALSE        FALSE        FALSE
## [25,] FALSE        FALSE        FALSE
## [26,] FALSE        FALSE        FALSE
## [27,] FALSE        FALSE        FALSE
## [28,] FALSE        FALSE        FALSE
## [29,] FALSE        FALSE        FALSE
## [30,] FALSE        FALSE        FALSE
## [31,] FALSE        FALSE        FALSE
## [32,] FALSE        FALSE        FALSE
## [33,] FALSE        FALSE        FALSE
## [34,] FALSE        FALSE        FALSE
## [35,] FALSE        FALSE        FALSE
## [36,] FALSE        FALSE        FALSE
## [37,] FALSE        FALSE        FALSE
## [38,] FALSE        FALSE        FALSE
## [39,] FALSE        FALSE        FALSE
## [40,] FALSE        FALSE        FALSE
## [41,] FALSE        FALSE        FALSE
## [42,] FALSE        FALSE        FALSE
## [43,] FALSE        FALSE        FALSE
## [44,] FALSE        FALSE        FALSE
## [45,] FALSE        FALSE        FALSE
## [46,] FALSE        FALSE        FALSE
## [47,] FALSE        FALSE        FALSE
## [48,] FALSE        FALSE        FALSE
## [49,] FALSE        FALSE        FALSE
## [50,] FALSE        FALSE        FALSE
## [51,] FALSE        FALSE        FALSE
## [52,] FALSE        FALSE        FALSE
## [53,] FALSE        FALSE        FALSE
```

```
##  [54,] FALSE        FALSE        FALSE
##  [55,] FALSE        FALSE        FALSE
##  [56,] FALSE        FALSE        FALSE
##  [57,] FALSE        FALSE        FALSE
##  [58,] FALSE        FALSE        FALSE
##  [59,] FALSE        FALSE        FALSE
##  [60,] FALSE        FALSE        FALSE
##  [61,] FALSE        FALSE        FALSE
##  [62,] FALSE        FALSE        FALSE
##  [63,] FALSE        FALSE        FALSE
##  [64,] FALSE        FALSE        FALSE
##  [65,] FALSE        FALSE        FALSE
##  [66,] FALSE        FALSE        FALSE
##  [67,] FALSE        FALSE        FALSE
##  [68,] FALSE        FALSE        FALSE
##  [69,] FALSE        FALSE        FALSE
##  [70,] FALSE        FALSE        FALSE
##  [71,] FALSE        FALSE        FALSE
##  [72,] FALSE        FALSE        FALSE
##  [73,] FALSE        FALSE        FALSE
##  [74,] FALSE        FALSE        FALSE
##  [75,] FALSE        FALSE        FALSE
##  [76,] FALSE        FALSE        FALSE
##  [77,] FALSE        FALSE        FALSE
##  [78,] FALSE        FALSE        FALSE
##  [79,] FALSE        FALSE        FALSE
##  [80,] FALSE        FALSE        FALSE
##  [81,] FALSE        FALSE        FALSE
##  [82,] FALSE        FALSE        FALSE
##  [83,] FALSE        FALSE        FALSE
##  [84,] FALSE        FALSE        FALSE
##  [85,] FALSE        FALSE        FALSE
##  [86,] FALSE        FALSE        FALSE
##  [87,] FALSE        FALSE        FALSE
##  [88,] FALSE        FALSE        FALSE
##  [89,] FALSE        FALSE        FALSE
##  [90,] FALSE        FALSE        FALSE
##  [91,] FALSE        FALSE        FALSE
##  [92,] FALSE        FALSE        FALSE
##  [93,] FALSE        FALSE        FALSE
##  [94,] FALSE        FALSE        FALSE
##  [95,] FALSE        FALSE        FALSE
##  [96,] FALSE        FALSE        FALSE
##  [97,] FALSE        FALSE        FALSE
##  [98,] FALSE        FALSE        FALSE
##  [99,] FALSE        FALSE        FALSE
## [100,] FALSE        FALSE        FALSE
## [101,] FALSE        FALSE        FALSE
## [102,] FALSE        FALSE        FALSE
## [103,] FALSE        FALSE        FALSE
```

```
## [104,] FALSE          FALSE          FALSE
## [105,] FALSE          FALSE          FALSE
## [106,] FALSE          FALSE          FALSE
## [107,] FALSE          FALSE          FALSE
## [108,] FALSE          FALSE          FALSE
## [109,] FALSE          FALSE          FALSE
## [110,] FALSE          FALSE          FALSE
## [111,] FALSE          FALSE          FALSE
## [112,] FALSE          FALSE          FALSE
## [113,] FALSE          FALSE          FALSE
## [114,] FALSE          FALSE          FALSE
## [115,] FALSE          FALSE          FALSE
## [116,] FALSE          FALSE          FALSE
## [117,] FALSE          FALSE          FALSE
## [118,] FALSE          FALSE          FALSE
## [119,] FALSE          FALSE          FALSE
## [120,] FALSE          FALSE          FALSE
## [121,] FALSE          FALSE          FALSE
## [122,] FALSE          FALSE          FALSE
## [123,] FALSE          FALSE          FALSE
## [124,] FALSE          FALSE          FALSE
## [125,] FALSE          FALSE          FALSE
## [126,] FALSE          FALSE          FALSE
## [127,] FALSE          FALSE          FALSE
## [128,] FALSE          FALSE          FALSE
## [129,] FALSE          FALSE          FALSE
## [130,] FALSE          FALSE          FALSE
## [131,] FALSE          FALSE          FALSE
## [132,] FALSE          FALSE          FALSE
## [133,] FALSE          FALSE          FALSE
## [134,] FALSE          FALSE          FALSE
## [135,] FALSE          FALSE          FALSE
## [136,] FALSE          FALSE          FALSE
## [137,] FALSE          FALSE          FALSE
## [138,] FALSE          FALSE          FALSE
## [139,] FALSE          FALSE          FALSE
## [140,] FALSE          FALSE          FALSE
## [141,] FALSE          FALSE          FALSE
## [142,] FALSE          FALSE          FALSE
## [143,] FALSE          FALSE          FALSE
## [144,] FALSE          FALSE          FALSE
## [145,] FALSE          FALSE          FALSE
## [146,] FALSE          FALSE          FALSE
## [147,] FALSE          FALSE          FALSE
## [148,] FALSE          FALSE          FALSE
## [149,] FALSE          FALSE          FALSE
## [150,] FALSE          FALSE          FALSE
## [151,] FALSE          FALSE          FALSE
## [152,] FALSE          FALSE          FALSE
## [153,] FALSE          FALSE          FALSE
```

```
## [154,] FALSE         FALSE         FALSE
## [155,] FALSE         FALSE         FALSE
## [156,] FALSE         FALSE         FALSE
## [157,] FALSE         FALSE         FALSE
## [158,] FALSE         FALSE         FALSE
## [159,] FALSE         FALSE         FALSE
## [160,] FALSE         FALSE         FALSE
## [161,] FALSE         FALSE         FALSE
## [162,] FALSE         FALSE         FALSE
## [163,] FALSE         FALSE         FALSE
## [164,] FALSE         FALSE         FALSE
## [165,] FALSE         FALSE         FALSE
## [166,] FALSE         FALSE         FALSE
## [167,] FALSE         FALSE         FALSE
## [168,] FALSE         FALSE         FALSE
## [169,] FALSE         FALSE         FALSE
## [170,] FALSE         FALSE         FALSE
## [171,] FALSE         FALSE         FALSE
## [172,] FALSE         FALSE         FALSE
## [173,] FALSE         FALSE         FALSE
## [174,] FALSE         FALSE         FALSE
## [175,] FALSE         FALSE         FALSE
## [176,] FALSE         FALSE         FALSE
## [177,] FALSE         FALSE         FALSE
## [178,] FALSE         FALSE         FALSE
## [179,] FALSE         FALSE         FALSE
## [180,] FALSE         FALSE         FALSE
## [181,] FALSE         FALSE         FALSE
## [182,] FALSE         FALSE         FALSE
## [183,] FALSE         FALSE         FALSE
## [184,] FALSE         FALSE         FALSE
## [185,] FALSE         FALSE         FALSE
## [186,] FALSE         FALSE         FALSE
## [187,] FALSE         FALSE         FALSE
## [188,] FALSE         FALSE         FALSE
## [189,] FALSE         FALSE         FALSE
## [190,] FALSE         FALSE         FALSE
## [191,] FALSE         FALSE         FALSE
## [192,] FALSE         FALSE         FALSE
## [193,] FALSE         FALSE         FALSE
## [194,] FALSE         FALSE         FALSE
## [195,] FALSE         FALSE         FALSE
## [196,] FALSE         FALSE         FALSE
## [197,] FALSE         FALSE         FALSE
## [198,] FALSE         FALSE         FALSE
## [199,] FALSE         FALSE         FALSE
## [200,] FALSE         FALSE         FALSE
## [201,] FALSE         FALSE         FALSE
## [202,] FALSE         FALSE         FALSE
## [203,] FALSE         FALSE         FALSE
```

```
## [204,] FALSE         FALSE        FALSE
## [205,] FALSE         FALSE        FALSE
## [206,] FALSE         FALSE        FALSE
## [207,] FALSE         FALSE        FALSE
## [208,] FALSE         FALSE        FALSE
## [209,] FALSE         FALSE        FALSE
## [210,] FALSE         FALSE        FALSE
## [211,] FALSE         FALSE        FALSE
## [212,] FALSE         FALSE        FALSE
## [213,] FALSE         FALSE        FALSE
## [214,] FALSE         FALSE        FALSE
## [215,] FALSE         FALSE        FALSE
## [216,] FALSE         FALSE        FALSE
## [217,] FALSE         FALSE        FALSE
## [218,] FALSE         FALSE        FALSE
## [219,] FALSE         FALSE        FALSE
## [220,] FALSE         FALSE        FALSE
## [221,] FALSE         FALSE        FALSE
## [222,] FALSE         FALSE        FALSE
## [223,] FALSE         FALSE        FALSE
## [224,] FALSE         FALSE        FALSE
## [225,] FALSE         FALSE        FALSE
## [226,] FALSE         FALSE        FALSE
## [227,] FALSE         FALSE        FALSE
## [228,] FALSE         FALSE        FALSE
## [229,] FALSE         FALSE        FALSE
## [230,] FALSE         FALSE        FALSE
## [231,] FALSE         FALSE        FALSE
## [232,] FALSE         FALSE        FALSE
## [233,] FALSE         FALSE        FALSE
## [234,] FALSE         FALSE        FALSE
## [235,] FALSE         FALSE        FALSE
## [236,] FALSE         FALSE        FALSE
## [237,] FALSE         FALSE        FALSE
## [238,] FALSE         FALSE        FALSE
## [239,] FALSE         FALSE        FALSE
## [240,] FALSE         FALSE        FALSE
## [241,] FALSE         FALSE        FALSE
## [242,] FALSE         FALSE        FALSE
## [243,] FALSE         FALSE        FALSE
## [244,] FALSE         FALSE        FALSE
## [245,] FALSE         FALSE        FALSE
## [246,] FALSE         FALSE        FALSE
## [247,] FALSE         FALSE        FALSE
## [248,] FALSE         FALSE        FALSE
## [249,] FALSE         FALSE        FALSE
## [250,] FALSE         FALSE        FALSE
## [251,] FALSE         FALSE        FALSE
## [252,] FALSE         FALSE        FALSE
## [253,] FALSE         FALSE        FALSE
```

```
## [254,]  FALSE        FALSE        FALSE
## [255,]  FALSE        FALSE        FALSE
## [256,]  FALSE        FALSE        FALSE
## [257,]  FALSE        FALSE        FALSE
## [258,]  FALSE        FALSE        FALSE
## [259,]  FALSE        FALSE        FALSE
## [260,]  FALSE        FALSE        FALSE
## [261,]  FALSE        FALSE        FALSE
## [262,]  FALSE        FALSE        FALSE
## [263,]  FALSE        FALSE        FALSE
## [264,]  FALSE        FALSE        FALSE
## [265,]  FALSE        FALSE        FALSE
## [266,]  FALSE        FALSE        FALSE
## [267,]  FALSE        FALSE        FALSE
## [268,]  FALSE        FALSE        FALSE
## [269,]  FALSE        FALSE        FALSE
## [270,]  FALSE        FALSE        FALSE
## [271,]  FALSE        FALSE        FALSE
## [272,]  FALSE        FALSE        FALSE
## [273,]  FALSE        FALSE        FALSE
## [274,]  FALSE        FALSE        FALSE
## [275,]  FALSE        FALSE        FALSE
## [276,]  FALSE        FALSE        FALSE
## [277,]  FALSE        FALSE        FALSE
## [278,]  FALSE        FALSE        FALSE
## [279,]  FALSE        FALSE        FALSE
## [280,]  FALSE        FALSE        FALSE
## [281,]  FALSE        FALSE        FALSE
## [282,]  FALSE        FALSE        FALSE
## [283,]  FALSE        FALSE        FALSE
## [284,]  FALSE        FALSE        FALSE
## [285,]  FALSE        FALSE        FALSE
## [286,]  FALSE        FALSE        FALSE
## [287,]  FALSE        FALSE        FALSE
## [288,]  FALSE        FALSE        FALSE
## [289,]  FALSE        FALSE        FALSE
## [290,]  FALSE        FALSE        FALSE
## [291,]  FALSE        FALSE        FALSE
## [292,]  FALSE        FALSE        FALSE
## [293,]  FALSE        FALSE        FALSE
## [294,]  FALSE        FALSE        FALSE
## [295,]  FALSE        FALSE        FALSE
## [296,]  FALSE        FALSE        FALSE
## [297,]  FALSE        FALSE        FALSE
## [298,]  FALSE        FALSE        FALSE
## [299,]  FALSE        FALSE        FALSE
## [300,]  FALSE        FALSE        FALSE
## [301,]  FALSE        FALSE        FALSE
## [302,]  FALSE        FALSE        FALSE
## [303,]  FALSE        FALSE        FALSE
```

```
## [304,]  FALSE          FALSE          FALSE
## [305,]  FALSE          FALSE          FALSE
## [306,]  FALSE          FALSE          FALSE
## [307,]  FALSE          FALSE          FALSE
## [308,]  FALSE          FALSE          FALSE
## [309,]  FALSE          FALSE          FALSE
## [310,]  FALSE          FALSE          FALSE
## [311,]  FALSE          FALSE          FALSE
## [312,]  FALSE          FALSE          FALSE
## [313,]  FALSE          FALSE          FALSE
## [314,]  FALSE          FALSE          FALSE
## [315,]  FALSE          FALSE          FALSE
## [316,]  FALSE          FALSE          FALSE
## [317,]  FALSE          FALSE          FALSE
## [318,]  FALSE          FALSE          FALSE
## [319,]  FALSE          FALSE          FALSE
## [320,]  FALSE          FALSE          FALSE
## [321,]  FALSE          FALSE          FALSE
## [322,]  FALSE          FALSE          FALSE
## [323,]  FALSE          FALSE          FALSE
## [324,]  FALSE          FALSE          FALSE
## [325,]  FALSE          FALSE          FALSE
## [326,]  FALSE          FALSE          FALSE
## [327,]  FALSE          FALSE          FALSE
## [328,]  FALSE          FALSE          FALSE
## [329,]  FALSE          FALSE          FALSE
## [330,]  FALSE          FALSE          FALSE
## [331,]  FALSE          FALSE          FALSE
## [332,]  FALSE          FALSE          FALSE
## [333,]  FALSE          FALSE          FALSE
## [334,]  FALSE          FALSE          FALSE
## [335,]  FALSE          FALSE          FALSE
## [336,]  FALSE          FALSE          FALSE
## [337,]  FALSE          FALSE          FALSE
## [338,]  FALSE          FALSE          FALSE
## [339,]  FALSE          FALSE          FALSE
## [340,]  FALSE          FALSE          FALSE
## [341,]  FALSE          FALSE          FALSE
## [342,]  FALSE          FALSE          FALSE
## [343,]  FALSE          FALSE          FALSE
## [344,]  FALSE          FALSE          FALSE
## [345,]  FALSE          FALSE          FALSE
## [346,]  FALSE          FALSE          FALSE
## [347,]  FALSE          FALSE          FALSE
## [348,]  FALSE          FALSE          FALSE
## [349,]  FALSE          FALSE          FALSE
## [350,]  FALSE          FALSE          FALSE
## [351,]  FALSE          FALSE          FALSE
## [352,]  FALSE          FALSE          FALSE
## [353,]  FALSE          FALSE          FALSE
```

```
## [354,] FALSE         FALSE         FALSE
## [355,] FALSE         FALSE         FALSE
## [356,] FALSE         FALSE         FALSE
## [357,] FALSE         FALSE         FALSE
## [358,] FALSE         FALSE         FALSE
## [359,] FALSE         FALSE         FALSE
## [360,] FALSE         FALSE         FALSE
## [361,] FALSE         FALSE         FALSE
## [362,] FALSE         FALSE         FALSE
## [363,] FALSE         FALSE         FALSE
## [364,] FALSE         FALSE         FALSE
## [365,] FALSE         FALSE         FALSE
## [366,] FALSE         FALSE         FALSE
## [367,] FALSE         FALSE         FALSE
## [368,] FALSE         FALSE         FALSE
## [369,] FALSE         FALSE         FALSE
## [370,] FALSE         FALSE         FALSE
## [371,] FALSE         FALSE         FALSE
## [372,] FALSE         FALSE         FALSE
## [373,] FALSE         FALSE         FALSE
## [374,] FALSE         FALSE         FALSE
## [375,] FALSE         FALSE         FALSE
## [376,] FALSE         FALSE         FALSE
## [377,] FALSE         FALSE         FALSE
## [378,] FALSE         FALSE         FALSE
## [379,] FALSE         FALSE         FALSE
## [380,] FALSE         FALSE         FALSE
## [381,] FALSE         FALSE         FALSE
## [382,] FALSE         FALSE         FALSE
## [383,] FALSE         FALSE         FALSE
## [384,] FALSE         FALSE         FALSE
## [385,] FALSE         FALSE         FALSE
## [386,] FALSE         FALSE         FALSE
## [387,] FALSE         FALSE         FALSE
## [388,] FALSE         FALSE         FALSE
## [389,] FALSE         FALSE         FALSE
## [390,] FALSE         FALSE         FALSE
## [391,] FALSE         FALSE         FALSE
## [392,] FALSE         FALSE         FALSE
## [393,] FALSE         FALSE         FALSE
## [394,] FALSE         FALSE         FALSE
## [395,] FALSE         FALSE         FALSE
## [396,] FALSE         FALSE         FALSE
## [397,] FALSE         FALSE         FALSE
## [398,] FALSE         FALSE         FALSE
## [399,] FALSE         FALSE         FALSE
## [400,] FALSE         FALSE         FALSE
## [401,] FALSE         FALSE         FALSE
## [402,] FALSE         FALSE         FALSE
## [403,] FALSE         FALSE         FALSE
```

```
## [404,] FALSE          FALSE          FALSE
## [405,] FALSE          FALSE          FALSE
## [406,] FALSE          FALSE          FALSE
## [407,] FALSE          FALSE          FALSE
## [408,] FALSE          FALSE          FALSE
## [409,] FALSE          FALSE          FALSE
## [410,] FALSE          FALSE          FALSE
## [411,] FALSE          FALSE          FALSE
## [412,] FALSE          FALSE          FALSE
## [413,] FALSE          FALSE          FALSE
## [414,] FALSE          FALSE          FALSE
## [415,] FALSE          FALSE          FALSE
## [416,] FALSE          FALSE          FALSE
## [417,] FALSE          FALSE          FALSE
## [418,] FALSE          FALSE          FALSE
## [419,] FALSE          FALSE          FALSE
## [420,] FALSE          FALSE          FALSE
## [421,] FALSE          FALSE          FALSE
## [422,] FALSE          FALSE          FALSE
## [423,] FALSE          FALSE          FALSE
## [424,] FALSE          FALSE          FALSE
## [425,] FALSE          FALSE          FALSE
## [426,] FALSE          FALSE          FALSE
## [427,] FALSE          FALSE          FALSE
## [428,] FALSE          FALSE          FALSE
## [429,] FALSE          FALSE          FALSE
## [430,] FALSE          FALSE          FALSE
## [431,] FALSE          FALSE          FALSE
## [432,] FALSE          FALSE          FALSE
## [433,] FALSE          FALSE          FALSE
## [434,] FALSE          FALSE          FALSE
## [435,] FALSE          FALSE          FALSE
## [436,] FALSE          FALSE          FALSE
## [437,] FALSE          FALSE          FALSE
## [438,] FALSE          FALSE          FALSE
## [439,] FALSE          FALSE          FALSE
## [440,] FALSE          FALSE          FALSE
## [441,] FALSE          FALSE          FALSE
## [442,] FALSE          FALSE          FALSE
## [443,] FALSE          FALSE          FALSE
## [444,] FALSE          FALSE          FALSE
## [445,] FALSE          FALSE          FALSE
## [446,] FALSE          FALSE          FALSE
## [447,] FALSE          FALSE          FALSE
## [448,] FALSE          FALSE          FALSE
## [449,] FALSE          FALSE          FALSE
## [450,] FALSE          FALSE          FALSE
## [451,] FALSE          FALSE          FALSE
## [452,] FALSE          FALSE          FALSE
## [453,] FALSE          FALSE          FALSE
```

```
## [454,]  FALSE        FALSE        FALSE
## [455,]  FALSE        FALSE        FALSE
## [456,]  FALSE        FALSE        FALSE
## [457,]  FALSE        FALSE        FALSE
## [458,]  FALSE        FALSE        FALSE
## [459,]  FALSE        FALSE        FALSE
## [460,]  FALSE        FALSE        FALSE
## [461,]  FALSE        FALSE        FALSE
## [462,]  FALSE        FALSE        FALSE
## [463,]  FALSE        FALSE        FALSE
## [464,]  FALSE        FALSE        FALSE
## [465,]  FALSE        FALSE        FALSE
## [466,]  FALSE        FALSE        FALSE
## [467,]  FALSE        FALSE        FALSE
## [468,]  FALSE        FALSE        FALSE
## [469,]  FALSE        FALSE        FALSE
## [470,]  FALSE        FALSE        FALSE
## [471,]  FALSE        FALSE        FALSE
## [472,]  FALSE        FALSE        FALSE
## [473,]  FALSE        FALSE        FALSE
## [474,]  FALSE        FALSE        FALSE
## [475,]  FALSE        FALSE        FALSE
## [476,]  FALSE        FALSE        FALSE
## [477,]  FALSE        FALSE        FALSE
## [478,]  FALSE        FALSE        FALSE
## [479,]  FALSE        FALSE        FALSE
## [480,]  FALSE        FALSE        FALSE
## [481,]  FALSE        FALSE        FALSE
## [482,]  FALSE        FALSE        FALSE
## [483,]  FALSE        FALSE        FALSE
## [484,]  FALSE        FALSE        FALSE
## [485,]  FALSE        FALSE        FALSE
## [486,]  FALSE        FALSE        FALSE
## [487,]  FALSE        FALSE        FALSE
## [488,]  FALSE        FALSE        FALSE
## [489,]  FALSE        FALSE        FALSE
## [490,]  FALSE        FALSE        FALSE
## [491,]  FALSE        FALSE        FALSE
## [492,]  FALSE        FALSE        FALSE
## [493,]  FALSE        FALSE        FALSE
## [494,]  FALSE        FALSE        FALSE
## [495,]  FALSE        FALSE        FALSE
## [496,]  FALSE        FALSE        FALSE
## [497,]  FALSE        FALSE        FALSE
## [498,]  FALSE        FALSE        FALSE
## [499,]  FALSE        FALSE        FALSE
## [500,]  FALSE        FALSE        FALSE
## [501,]  FALSE        FALSE        FALSE
## [502,]  FALSE        FALSE        FALSE
## [503,]  FALSE        FALSE        FALSE
```

```
## [504,] FALSE        FALSE        FALSE
## [505,] FALSE        FALSE        FALSE
## [506,] FALSE        FALSE        FALSE
## [507,] FALSE        FALSE        FALSE
## [508,] FALSE        FALSE        FALSE
## [509,] FALSE        FALSE        FALSE
## [510,] FALSE        FALSE        FALSE
## [511,] FALSE        FALSE        FALSE
## [512,] FALSE        FALSE        FALSE
## [513,] FALSE        FALSE        FALSE
## [514,] FALSE        FALSE        FALSE
## [515,] FALSE        FALSE        FALSE
## [516,] FALSE        FALSE        FALSE
## [517,] FALSE        FALSE        FALSE
## [518,] FALSE        FALSE        FALSE
## [519,] FALSE        FALSE        FALSE
## [520,] FALSE        FALSE        FALSE
## [521,] FALSE        FALSE        FALSE
## [522,] FALSE        FALSE        FALSE
## [523,] FALSE        FALSE        FALSE
## [524,] FALSE        FALSE        FALSE
## [525,] FALSE        FALSE        FALSE
## [526,] FALSE        FALSE        FALSE
## [527,] FALSE        FALSE        FALSE
## [528,] FALSE        FALSE        FALSE
## [529,] FALSE        FALSE        FALSE
## [530,] FALSE        FALSE        FALSE
## [531,] FALSE        FALSE        FALSE
## [532,] FALSE        FALSE        FALSE
## [533,] FALSE        FALSE        FALSE
## [534,] FALSE        FALSE        FALSE
## [535,] FALSE        FALSE        FALSE
## [536,] FALSE        FALSE        FALSE
## [537,] FALSE        FALSE        FALSE
## [538,] FALSE        FALSE        FALSE
## [539,] FALSE        FALSE        FALSE
## [540,] FALSE        FALSE        FALSE
## [541,] FALSE        FALSE        FALSE
## [542,] FALSE        FALSE        FALSE
## [543,] FALSE        FALSE        FALSE
## [544,] FALSE        FALSE        FALSE
## [545,] FALSE        FALSE        FALSE
## [546,] FALSE        FALSE        FALSE
## [547,] FALSE        FALSE        FALSE
## [548,] FALSE        FALSE        FALSE
## [549,] FALSE        FALSE        FALSE
## [550,] FALSE        FALSE        FALSE
## [551,] FALSE        FALSE        FALSE
## [552,] FALSE        FALSE        FALSE
## [553,] FALSE        FALSE        FALSE
```

```
## [554,] FALSE          FALSE          FALSE
## [555,] FALSE          FALSE          FALSE
## [556,] FALSE          FALSE          FALSE
## [557,] FALSE          FALSE          FALSE
## [558,] FALSE          FALSE          FALSE
## [559,] FALSE          FALSE          FALSE
## [560,] FALSE          FALSE          FALSE
## [561,] FALSE          FALSE          FALSE
## [562,] FALSE          FALSE          FALSE
## [563,] FALSE          FALSE          FALSE
## [564,] FALSE          FALSE          FALSE
## [565,] FALSE          FALSE          FALSE
## [566,] FALSE          FALSE          FALSE
## [567,] FALSE          FALSE          FALSE
## [568,] FALSE          FALSE          FALSE
## [569,] FALSE          FALSE          FALSE
## [570,] FALSE          FALSE          FALSE
## [571,] FALSE          FALSE          FALSE
## [572,] FALSE          FALSE          FALSE
## [573,] FALSE          FALSE          FALSE
## [574,] FALSE          FALSE          FALSE
## [575,] FALSE          FALSE          FALSE
## [576,] FALSE          FALSE          FALSE
## [577,] FALSE          FALSE          FALSE
## [578,] FALSE          FALSE          FALSE
## [579,] FALSE          FALSE          FALSE
## [580,] FALSE          FALSE          FALSE
## [581,] FALSE          FALSE          FALSE
## [582,] FALSE          FALSE          FALSE
## [583,] FALSE          FALSE          FALSE
## [584,] FALSE          FALSE          FALSE
## [585,] FALSE          FALSE          FALSE
## [586,] FALSE          FALSE          FALSE
## [587,] FALSE          FALSE          FALSE
## [588,] FALSE          FALSE          FALSE
## [589,] FALSE          FALSE          FALSE
## [590,] FALSE          FALSE          FALSE
## [591,] FALSE          FALSE          FALSE
## [592,] FALSE          FALSE          FALSE
## [593,] FALSE          FALSE          FALSE
## [594,] FALSE          FALSE          FALSE
## [595,] FALSE          FALSE          FALSE
## [596,] FALSE          FALSE          FALSE
## [597,] FALSE          FALSE          FALSE
## [598,] FALSE          FALSE          FALSE
## [599,] FALSE          FALSE          FALSE
## [600,] FALSE          FALSE          FALSE
## [601,] FALSE          FALSE          FALSE
## [602,] FALSE          FALSE          FALSE
## [603,] FALSE          FALSE          FALSE
```

```
## [604,] FALSE        FALSE        FALSE
## [605,] FALSE        FALSE        FALSE
## [606,] FALSE        FALSE        FALSE
## [607,] FALSE        FALSE        FALSE
## [608,] FALSE        FALSE        FALSE
## [609,] FALSE        FALSE        FALSE
## [610,] FALSE        FALSE        FALSE
## [611,] FALSE        FALSE        FALSE
## [612,] FALSE        FALSE        FALSE
## [613,] FALSE        FALSE        FALSE
## [614,] FALSE        FALSE        FALSE
## [615,] FALSE        FALSE        FALSE
## [616,] FALSE        FALSE        FALSE
## [617,] FALSE        FALSE        FALSE
## [618,] FALSE        FALSE        FALSE
## [619,] FALSE        FALSE        FALSE
## [620,] FALSE        FALSE        FALSE
## [621,] FALSE        FALSE        FALSE
## [622,] FALSE        FALSE        FALSE
## [623,] FALSE        FALSE        FALSE
## [624,] FALSE        FALSE        FALSE
## [625,] FALSE        FALSE        FALSE
## [626,] FALSE        FALSE        FALSE
## [627,] FALSE        FALSE        FALSE
## [628,] FALSE        FALSE        FALSE
## [629,] FALSE        FALSE        FALSE
## [630,] FALSE        FALSE        FALSE
## [631,] FALSE        FALSE        FALSE
## [632,] FALSE        FALSE        FALSE
## [633,] FALSE        FALSE        FALSE
## [634,] FALSE        FALSE        FALSE
## [635,] FALSE        FALSE        FALSE
## [636,] FALSE        FALSE        FALSE
## [637,] FALSE        FALSE        FALSE
## [638,] FALSE        FALSE        FALSE
## [639,] FALSE        FALSE        FALSE
## [640,] FALSE        FALSE        FALSE
## [641,] FALSE        FALSE        FALSE
## [642,] FALSE        FALSE        FALSE
## [643,] FALSE        FALSE        FALSE
## [644,] FALSE        FALSE        FALSE
## [645,] FALSE        FALSE        FALSE
## [646,] FALSE        FALSE        FALSE
## [647,] FALSE        FALSE        FALSE
## [648,] FALSE        FALSE        FALSE
## [649,] FALSE        FALSE        FALSE
## [650,] FALSE        FALSE        FALSE
## [651,] FALSE        FALSE        FALSE
## [652,] FALSE        FALSE        FALSE
## [653,] FALSE        FALSE        FALSE
```

```
## [654,] FALSE          FALSE          FALSE
## [655,] FALSE          FALSE          FALSE
## [656,] FALSE          FALSE          FALSE
## [657,] FALSE          FALSE          FALSE
## [658,] FALSE          FALSE          FALSE
## [659,] FALSE          FALSE          FALSE
## [660,] FALSE          FALSE          FALSE
## [661,] FALSE          FALSE          FALSE
## [662,] FALSE          FALSE          FALSE
## [663,] FALSE          FALSE          FALSE
## [664,] FALSE          FALSE          FALSE
## [665,] FALSE          FALSE          FALSE
## [666,] FALSE          FALSE          FALSE
## [667,] FALSE          FALSE          FALSE
## [668,] FALSE          FALSE          FALSE
## [669,] FALSE          FALSE          FALSE
## [670,] FALSE          FALSE          FALSE
## [671,] FALSE          FALSE          FALSE
## [672,] FALSE          FALSE          FALSE
## [673,] FALSE          FALSE          FALSE
## [674,] FALSE          FALSE          FALSE
## [675,] FALSE          FALSE          FALSE
## [676,] FALSE          FALSE          FALSE
## [677,] FALSE          FALSE          FALSE
## [678,] FALSE          FALSE          FALSE
## [679,] FALSE          FALSE          FALSE
## [680,] FALSE          FALSE          FALSE
## [681,] FALSE          FALSE          FALSE
## [682,] FALSE          FALSE          FALSE
## [683,] FALSE          FALSE          FALSE
## [684,] FALSE          FALSE          FALSE
## [685,] FALSE          FALSE          FALSE
## [686,] FALSE          FALSE          FALSE
## [687,] FALSE          FALSE          FALSE
## [688,] FALSE          FALSE          FALSE
## [689,] FALSE          FALSE          FALSE
## [690,] FALSE          FALSE          FALSE
## [691,] FALSE          FALSE          FALSE
## [692,] FALSE          FALSE          FALSE
## [693,] FALSE          FALSE          FALSE
## [694,] FALSE          FALSE          FALSE
## [695,] FALSE          FALSE          FALSE
## [696,] FALSE          FALSE          FALSE
## [697,] FALSE          FALSE          FALSE
## [698,] FALSE          FALSE          FALSE
## [699,] FALSE          FALSE          FALSE
## [700,] FALSE          FALSE          FALSE
## [701,] FALSE          FALSE          FALSE
## [702,] FALSE          FALSE          FALSE
## [703,] FALSE          FALSE          FALSE
```

```
## [704,] FALSE        FALSE        FALSE
## [705,] FALSE        FALSE        FALSE
## [706,] FALSE        FALSE        FALSE
## [707,] FALSE        FALSE        FALSE
## [708,] FALSE        FALSE        FALSE
## [709,] FALSE        FALSE        FALSE
## [710,] FALSE        FALSE        FALSE
## [711,] FALSE        FALSE        FALSE
## [712,] FALSE        FALSE        FALSE
## [713,] FALSE        FALSE        FALSE
## [714,] FALSE        FALSE        FALSE
## [715,] FALSE        FALSE        FALSE
## [716,] FALSE        FALSE        FALSE
## [717,] FALSE        FALSE        FALSE
## [718,] FALSE        FALSE        FALSE
## [719,] FALSE        FALSE        FALSE
## [720,] FALSE        FALSE        FALSE
## [721,] FALSE        FALSE        FALSE
## [722,] FALSE        FALSE        FALSE
## [723,] FALSE        FALSE        FALSE
## [724,] FALSE        FALSE        FALSE
## [725,] FALSE        FALSE        FALSE
## [726,] FALSE        FALSE        FALSE
## [727,] FALSE        FALSE        FALSE
## [728,] FALSE        FALSE        FALSE
## [729,] FALSE        FALSE        FALSE
## [730,] FALSE        FALSE        FALSE
## [731,] FALSE        FALSE        FALSE
## [732,] FALSE        FALSE        FALSE
## [733,] FALSE        FALSE        FALSE
## [734,] FALSE        FALSE        FALSE
## [735,] FALSE        FALSE        FALSE
## [736,] FALSE        FALSE        FALSE
## [737,] FALSE        FALSE        FALSE
## [738,] FALSE        FALSE        FALSE
## [739,] FALSE        FALSE        FALSE
## [740,] FALSE        FALSE        FALSE
## [741,] FALSE        FALSE        FALSE
## [742,] FALSE        FALSE        FALSE
## [743,] FALSE        FALSE        FALSE
## [744,] FALSE        FALSE        FALSE
## [745,] FALSE        FALSE        FALSE
## [746,] FALSE        FALSE        FALSE
## [747,] FALSE        FALSE        FALSE
## [748,] FALSE        FALSE        FALSE
## [749,] FALSE        FALSE        FALSE
## [750,] FALSE        FALSE        FALSE
## [751,] FALSE        FALSE        FALSE
## [752,] FALSE        FALSE        FALSE
## [753,] FALSE        FALSE        FALSE
```

```
## [754,] FALSE        FALSE        FALSE
## [755,] FALSE        FALSE        FALSE
## [756,] FALSE        FALSE        FALSE
## [757,] FALSE        FALSE        FALSE
## [758,] FALSE        FALSE        FALSE
## [759,] FALSE        FALSE        FALSE
## [760,] FALSE        FALSE        FALSE
## [761,] FALSE        FALSE        FALSE
## [762,] FALSE        FALSE        FALSE
## [763,] FALSE        FALSE        FALSE
## [764,] FALSE        FALSE        FALSE
## [765,] FALSE        FALSE        FALSE
## [766,] FALSE        FALSE        FALSE
## [767,] FALSE        FALSE        FALSE
## [768,] FALSE        FALSE        FALSE
## [769,] FALSE        FALSE        FALSE
## [770,] FALSE        FALSE        FALSE
## [771,] FALSE        FALSE        FALSE
## [772,] FALSE        FALSE        FALSE
## [773,] FALSE        FALSE        FALSE
## [774,] FALSE        FALSE        FALSE
## [775,] FALSE        FALSE        FALSE
## [776,] FALSE        FALSE        FALSE
## [777,] FALSE        FALSE        FALSE
## [778,] FALSE        FALSE        FALSE
## [779,] FALSE        FALSE        FALSE
## [780,] FALSE        FALSE        FALSE
## [781,] FALSE        FALSE        FALSE
## [782,] FALSE        FALSE        FALSE
## [783,] FALSE        FALSE        FALSE
## [784,] FALSE        FALSE        FALSE
## [785,] FALSE        FALSE        FALSE
## [786,] FALSE        FALSE        FALSE
## [787,] FALSE        FALSE        FALSE
## [788,] FALSE        FALSE        FALSE
## [789,] FALSE        FALSE        FALSE
## [790,] FALSE        FALSE        FALSE
## [791,] FALSE        FALSE        FALSE
## [792,] FALSE        FALSE        FALSE
## [793,] FALSE        FALSE        FALSE
## [794,] FALSE        FALSE        FALSE
## [795,] FALSE        FALSE        FALSE
## [796,] FALSE        FALSE        FALSE
## [797,] FALSE        FALSE        FALSE
## [798,] FALSE        FALSE        FALSE
## [799,] FALSE        FALSE        FALSE
## [800,] FALSE        FALSE        FALSE
## [801,] FALSE        FALSE        FALSE
## [802,] FALSE        FALSE        FALSE
## [803,] FALSE        FALSE        FALSE
```

```
## [804,] FALSE          FALSE          FALSE
## [805,] FALSE          FALSE          FALSE
## [806,] FALSE          FALSE          FALSE
## [807,] FALSE          FALSE          FALSE
## [808,] FALSE          FALSE          FALSE
## [809,] FALSE          FALSE          FALSE
## [810,] FALSE          FALSE          FALSE
## [811,] FALSE          FALSE          FALSE
## [812,] FALSE          FALSE          FALSE
## [813,] FALSE          FALSE          FALSE
## [814,] FALSE          FALSE          FALSE
## [815,] FALSE          FALSE          FALSE
## [816,] FALSE          FALSE          FALSE
## [817,] FALSE          FALSE          FALSE
## [818,] FALSE          FALSE          FALSE
## [819,] FALSE          FALSE          FALSE
## [820,] FALSE          FALSE          FALSE
## [821,] FALSE          FALSE          FALSE
## [822,] FALSE          FALSE          FALSE
## [823,] FALSE          FALSE          FALSE
## [824,] FALSE          FALSE          FALSE
## [825,] FALSE          FALSE          FALSE
## [826,] FALSE          FALSE          FALSE
## [827,] FALSE          FALSE          FALSE
## [828,] FALSE          FALSE          FALSE
## [829,] FALSE          FALSE          FALSE
## [830,] FALSE          FALSE          FALSE
## [831,] FALSE          FALSE          FALSE
## [832,] FALSE          FALSE          FALSE
## [833,] FALSE          FALSE          FALSE
## [834,] FALSE          FALSE          FALSE
## [835,] FALSE          FALSE          FALSE
## [836,] FALSE          FALSE          FALSE
## [837,] FALSE          FALSE          FALSE
## [838,] FALSE          FALSE          FALSE
## [839,] FALSE          FALSE          FALSE
## [840,] FALSE          FALSE          FALSE
## [841,] FALSE          FALSE          FALSE
## [842,] FALSE          FALSE          FALSE
## [843,] FALSE          FALSE          FALSE
## [844,] FALSE          FALSE          FALSE
## [845,] FALSE          FALSE          FALSE
## [846,] FALSE          FALSE          FALSE
## [847,] FALSE          FALSE          FALSE
## [848,] FALSE          FALSE          FALSE
## [849,] FALSE          FALSE          FALSE
## [850,] FALSE          FALSE          FALSE
## [851,] FALSE          FALSE          FALSE
## [852,] FALSE          FALSE          FALSE
## [853,] FALSE          FALSE          FALSE
```

```
## [854,]  FALSE        FALSE        FALSE
## [855,]  FALSE        FALSE        FALSE
## [856,]  FALSE        FALSE        FALSE
## [857,]  FALSE        FALSE        FALSE
## [858,]  FALSE        FALSE        FALSE
## [859,]  FALSE        FALSE        FALSE
## [860,]  FALSE        FALSE        FALSE
## [861,]  FALSE        FALSE        FALSE
## [862,]  FALSE        FALSE        FALSE
## [863,]  FALSE        FALSE        FALSE
## [864,]  FALSE        FALSE        FALSE
## [865,]  FALSE        FALSE        FALSE
## [866,]  FALSE        FALSE        FALSE
## [867,]  FALSE        FALSE        FALSE
## [868,]  FALSE        FALSE        FALSE
## [869,]  FALSE        FALSE        FALSE
## [870,]  FALSE        FALSE        FALSE
## [871,]  FALSE        FALSE        FALSE
## [872,]  FALSE        FALSE        FALSE
## [873,]  FALSE        FALSE        FALSE
## [874,]  FALSE        FALSE        FALSE
## [875,]  FALSE        FALSE        FALSE
## [876,]  FALSE        FALSE        FALSE
## [877,]  FALSE        FALSE        FALSE
## [878,]  FALSE        FALSE        FALSE
## [879,]  FALSE        FALSE        FALSE
## [880,]  FALSE        FALSE        FALSE
## [881,]  FALSE        FALSE        FALSE
## [882,]  FALSE        FALSE        FALSE
## [883,]  FALSE        FALSE        FALSE
## [884,]  FALSE        FALSE        FALSE
## [885,]  FALSE        FALSE        FALSE
## [886,]  FALSE        FALSE        FALSE
## [887,]  FALSE        FALSE        FALSE
## [888,]  FALSE        FALSE        FALSE
## [889,]  FALSE        FALSE        FALSE
## [890,]  FALSE        FALSE        FALSE
## [891,]  FALSE        FALSE        FALSE
## [892,]  FALSE        FALSE        FALSE
## [893,]  FALSE        FALSE        FALSE
## [894,]  FALSE        FALSE        FALSE
## [895,]  FALSE        FALSE        FALSE
## [896,]  FALSE        FALSE        FALSE
## [897,]  FALSE        FALSE        FALSE
## [898,]  FALSE        FALSE        FALSE
## [899,]  FALSE        FALSE        FALSE
## [900,]  FALSE        FALSE        FALSE
## [901,]  FALSE        FALSE        FALSE
## [902,]  FALSE        FALSE        FALSE
## [903,]  FALSE        FALSE        FALSE
```

```
## [904,] FALSE          FALSE          FALSE
## [905,] FALSE          FALSE          FALSE
## [906,] FALSE          FALSE          FALSE
## [907,] FALSE          FALSE          FALSE
## [908,] FALSE          FALSE          FALSE
## [909,] FALSE          FALSE          FALSE
## [910,] FALSE          FALSE          FALSE
## [911,] FALSE          FALSE          FALSE
## [912,] FALSE          FALSE          FALSE
## [913,] FALSE          FALSE          FALSE
## [914,] FALSE          FALSE          FALSE
## [915,] FALSE          FALSE          FALSE
## [916,] FALSE          FALSE          FALSE
## [917,] FALSE          FALSE          FALSE
## [918,] FALSE          FALSE          FALSE
## [919,] FALSE          FALSE          FALSE
## [920,] FALSE          FALSE          FALSE
## [921,] FALSE          FALSE          FALSE
## [922,] FALSE          FALSE          FALSE
## [923,] FALSE          FALSE          FALSE
## [924,] FALSE          FALSE          FALSE
## [925,] FALSE          FALSE          FALSE
## [926,] FALSE          FALSE          FALSE
## [927,] FALSE          FALSE          FALSE
## [928,] FALSE          FALSE          FALSE
## [929,] FALSE          FALSE          FALSE
## [930,] FALSE          FALSE          FALSE
## [931,] FALSE          FALSE          FALSE
## [932,] FALSE          FALSE          FALSE
## [933,] FALSE          FALSE          FALSE
## [934,] FALSE          FALSE          FALSE
## [935,] FALSE          FALSE          FALSE
## [936,] FALSE          FALSE          FALSE
## [937,] FALSE          FALSE          FALSE
## [938,] FALSE          FALSE          FALSE
## [939,] FALSE          FALSE          FALSE
## [940,] FALSE          FALSE          FALSE
```

```
sum(is.na(dailySteps))
```

```
## [1] 0
```

There are no missing values in the dailyCalories table, indicating completeness.

Checking for duplicated rows in the dailySteps table.
```
duplicated(dailySteps)
```

```
##    [1] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
##   [13] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
```

```
FALSE
##  [25] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
##  [37] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
##  [49] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
##  [61] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
##  [73] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
##  [85] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
##  [97] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [109] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [121] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [133] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [145] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [157] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [169] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [181] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [193] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [205] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [217] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [229] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [241] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [253] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [265] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [277] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [289] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [301] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [313] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
```

```
FALSE
## [325] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [337] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [349] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [361] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [373] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [385] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [397] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [409] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [421] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [433] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [445] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [457] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [469] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [481] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [493] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [505] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [517] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [529] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [541] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [553] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [565] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [577] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [589] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [601] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [613] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
```

```
FALSE
## [625] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [637] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [649] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [661] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [673] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [685] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [697] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [709] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [721] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [733] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [745] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [757] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [769] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [781] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [793] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [805] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [817] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [829] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [841] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [853] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [865] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [877] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [889] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [901] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [913] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
```

```
FALSE
## [925] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
FALSE
## [937] FALSE FALSE FALSE FALSE

dailySteps[duplicated(dailySteps),]

## [1] Id          ActivityDay StepTotal
## <0 rows> (or 0-length row.names)

### There are no duplicate rows in the dailySteps table. Each entry is
unique.

### Summary statistics of numerical columns in the dailySteps table.
summary(dailySteps)

##       Id             ActivityDay        StepTotal
## Min.   :1.504e+09  Length:940        Min.   :    0
## 1st Qu.:2.320e+09  Class :character  1st Qu.: 3790
## Median :4.445e+09  Mode  :character  Median : 7406
## Mean   :4.855e+09                    Mean   : 7638
## 3rd Qu.:6.962e+09                    3rd Qu.:10727
## Max.   :8.878e+09                    Max.   :36019

### The dailySteps table consists of 940 rows and 3 columns.
### The unique user identifiers (Id) range from 1503960366 to 8877689391.
### There are no missing values in the table.
### No duplicates are found based on the combination of Id and ActivityDay.
### The minimum StepTotal is 0, and the maximum is 36019, with a mean of
7638.
### Further cleaning will be done to address data type inconsistencies and
improve column names for clarity.
```

PROCESS PHASE:

Now that I've completed the preparation phase, it's time to delve into the processing stage. In this phase, my focus is on cleaning and manipulating the data to address issues identified during exploration. The goal is to refine the data set for more accurate analysis and insights. Buckle up for a journey of data transformation and refinement!

DAILYACTIVITY TABLE

1. Variable Naming: I will ensure uniformity in variable names using the snake_case convention for clarity.
2. Data Types: I'll convert 'ActivityDate' from character to Date type to enhance date-related operations. Time to refine and polish the dailyactivity table for a smoother catalytic journey!

```
### Renaming variables for clarity and consistency
names(dailyActivity) <- c(
  "user_id", "activity_date", "total_steps", "total_distance",
"tracker_distance",
```

```
  "logged_activities_distance", "very_active_distance",
"moderately_active_distance",
  "light_active_distance", "sedentary_active_distance",
"very_active_minutes",
  "fairly_active_minutes", "lightly_active_minutes", "sedentary_minutes",
"calories"
)
```

Displaying the updated variable names
```
names(dailyActivity)
```

```
##  [1] "user_id"                  "activity_date"
##  [3] "total_steps"              "total_distance"
##  [5] "tracker_distance"         "logged_activities_distance"
##  [7] "very_active_distance"     "moderately_active_distance"
##  [9] "light_active_distance"    "sedentary_active_distance"
## [11] "very_active_minutes"      "fairly_active_minutes"
## [13] "lightly_active_minutes"   "sedentary_minutes"
## [15] "calories"
```

Converting 'activity_date' variables to date data type
```
dailyActivity$activity_date <- mdy(dailyActivity$activity_date)
```
To confirm the update
```
class(dailyActivity$activity_date)
```

```
## [1] "Date"
```

To change the change the newly converted activity_date variable to R standard date format "%Y-%m-%d"
```
dailyActivity$activity_date <- format(dailyActivity$activity_date,"%Y-%m-%d")
```

Data in dailyactivity table has been successfully cleaned and processed.
Variable names have been standardized, and data types adjusted for clarity and consistency.

Addressing Data Quality Issues Identified in dailycalories Exploration:

1. Data Type Mismatch: Converting 'ActivityDay' (representing dates) from character to Date format ("%y/%m/%d") for consistency.
2. Variable Naming Consistency: Adjusting variable names, e.g., renaming 'Id' for clarity. These cleaning tasks aim to enhance data quality for accurate analysis.

Adjust variable names for clarity and consistency
```
names(dailyCalories)[1] <- "user_id"      ### Replace 'Id' with 'user_id'
names(dailyCalories)[2] <- "activity_day"  ### Add underscore to
'ActivityDay' as 'activity_day'
```

Convert 'ActivityDay' to Date format ("%y/%m/%d")
```
dailyCalories$activity_day <- mdy(dailyCalories$activity_day)
```
Verify changes
```
class(dailyCalories$activity_day)
```

```
## [1] "Date"
```

To change the change the newly converted activity_date variable to R
standard date format "%Y-%m-%d"
```
dailyCalories$activity_day <- format(dailyCalories$activity_day,"%Y-%m-%d")
class(dailyCalories$activity_day)

## [1] "character"
```

Cleaning of dailyCalories Table Completed
Variable names adjusted, and data types corrected for accurate analysis.

Initiating Cleaning for dailySteps Table:

Addressing variable naming issues and ensuring data types are appropriate for analysis.

To adjust variable names for clarity and consistency
```
names(dailySteps)[1] <- "user_id"      ### Replace 'Id' with 'user_id'
names(dailySteps)[2] <- "activity_day"  ### Add underscore to 'ActivityDay'
as 'activity_day'
names(dailySteps)[3] <- "step_total"    ### Add underscore to 'StepTotal' as
'step_total'
```

Convert 'ActivityDay' to Date format ("%y/%m/%d")
```
dailySteps$activity_day <- mdy(dailySteps$activity_day)
```

To verify the changes made
```
class(dailySteps$activity_day)

## [1] "Date"
```

To change the newly converted activity_date variable to R standard date
format "%Y-%m-%d"
```
dailySteps$activity_day <- format(dailySteps$activity_day,"%Y-%m-%d")
```

With the meticulous cleaning of the three data frames—dailyActivity, dailyCalories, and dailySteps—it's time to dive into the realm of analysis. Unraveling the intricacies of the data, we aim to extract meaningful insights that will illuminate patterns, trends, and correlations. Let the exploration unfold, turning raw data into actionable knowledge.

In this pivotal analysis phase, my goal is to address key business questions and unearth valuable insights for Bellabeat: 1. What are the patterns and trends in daily activity levels among users? 2. How do daily step counts correlate with daily calories burned? 3. Are there specific days or months where user engagement is notably higher or lower? 4. What insights can we gain about user behavior based on activity intensity (e.g., sedentary, light, moderate, vigorous)? These questions will guide my exploration, providing Bellabeat with actionable intelligence to enhance their products and user experience.

```
# Aggregating daily step totals to understand overall patterns
daily_activity_patterns <- dailySteps %>%
  group_by(activity_day) %>%
```

```r
  summarise(Avg_StepTotal = mean(step_total))
```

```r
# Visualizing trends over time

Trends_over_time <- ggplot(daily_activity_patterns, aes(x = activity_day, y = Avg_StepTotal)) +
  geom_line(color = "steelblue") +
  geom_point(aes(label = round(Avg_StepTotal)), color = "darkred", size = 3) +
  geom_text(aes(label = round(Avg_StepTotal), vjust = -1), color = "black", size = 3) +
  labs(title = "Daily Average Step Counts Over Time",
       x = "Date",
       y = "Average Step Total") +
  theme_minimal() +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))

print(Trends_over_time)
```
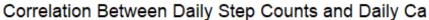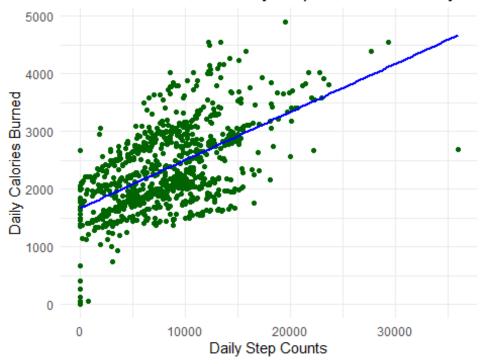


```r
# Saving the plot with a name
```

```
from 8237 to 6409.
# However, the average count showed an upward trend, reaching an all-time
high on May 4th.
# A significant dip was recorded around May 12th, representing the lowest
average daily step count.

# Assuming dailySteps and dailyCalories have a common column (e.g., user_id)
for linking
stepcounts_vs_dailycalories <- ggplot() +
  geom_point(data = dailySteps, aes(x = step_total, y =
dailyCalories$Calories), color = "darkgreen") +
  geom_smooth(data = dailySteps, aes(x = step_total, y =
dailyCalories$Calories), method = "lm", se = FALSE, color = "blue") +
  labs(title = "Correlation Between Daily Step Counts and Daily Calories
Burned",
       x = "Daily Step Counts",
       y = "Daily Calories Burned") +
  theme_minimal()

print(stepcounts_vs_dailycalories)
```
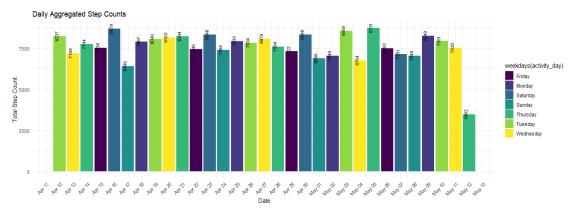


```
# Calculating the correlation coefficient
correlation <- cor(dailySteps$step_total, dailyCalories$Calories)
cat("Correlation Coefficient:", correlation)

## Correlation Coefficient: 0.5915681

print(correlation)
```
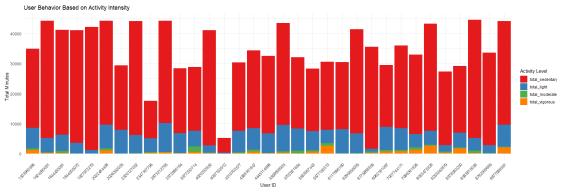
```
## [1] 0.5915681

# The correlation coefficient of 0.59 suggests a moderate positive
correlation
# between daily step counts and daily calories burned. This indicates that,
on average,
# as the number of steps increases, the total calories burned also tends to
increase.

daily_activity_patterns$activity_day <-
as.Date(daily_activity_patterns$activity_day)

  dailystep_count <- ggplot(daily_activity_patterns, aes(x = activity_day, y
= Avg_StepTotal, fill = weekdays(activity_day))) +
    geom_bar(stat = "identity") +
    geom_text(aes(label = round(Avg_StepTotal, 0)), vjust = -0.5, hjust =
0.5, size = 3, angle = 90) +
    labs(title = "Daily Aggregated Step Counts",
         x = "Date",
         y = "Total Step Count") +
    scale_fill_viridis(discrete = TRUE) +
    theme_minimal() +
    scale_x_date(date_labels = "%b %d", date_breaks = "1 day") +
    theme(axis.text.x = element_text(angle = 45, hjust = 1))

knitr::knit_print(dailystep_count)
```


The daily aggregated step count peaked on May 6th, making it the day with the highest user engagement.
April 16th also showed high engagement, while the lowest step count was recorded on May 12th.

```
# To calculate total minutes for each activity level
  dailyActivity$total_sedentary <- dailyActivity$sedentary_minutes
  dailyActivity$total_light <- dailyActivity$lightly_active_minutes
  dailyActivity$total_moderate <- dailyActivity$fairly_active_minutes
  dailyActivity$total_vigorous <- dailyActivity$very_active_minutes
```

```
  # Melt the data frame for better visualization
  melted_data <- melt(dailyActivity, id.vars = "user_id", measure.vars =
c("total_sedentary", "total_light", "total_moderate", "total_vigorous"))

daily_activity_patterns$activity_day <-
as.Date(daily_activity_patterns$activity_day)

  # Plot the data
  UserActivity_Intensity <- ggplot(melted_data, aes(x = factor(user_id), y =
value, fill = variable)) +
    geom_bar(stat = "identity") +
    labs(title = "User Behavior Based on Activity Intensity",
         x = "User ID",
         y = "Total Minutes",
         fill = "Activity Level") +
    scale_fill_manual(values = c("total_sedentary" = "#e41a1c", "total_light"
= "#377eb8", "total_moderate" = "#4daf4a", "total_vigorous" = "#ff7f00")) +
    theme_minimal() +
    theme(axis.text.x = element_text(angle = 45, hjust = 1))

knitr::knit_print(UserActivity_Intensity)
```


Sedentary behavior dominates users' daily routines, representing the highest proportion of activity.
Light-intensity activities follow, indicating a significant allocation of time to less strenuous tasks.
Both moderate and vigorous activities contribute relatively less to users' overall activity.
These insights emphasize the need for interventions promoting more active lifestyles, especially in moderate and vigorous categories.

```
# Create a new column to categorize users based on step counts
  dailyActivity$activity_level <- cut(dailyActivity$total_steps,
                                breaks = c(0, 5000, 10000, 15000, Inf),
                                labels = c("Low", "Moderate", "High",
"Very High"))

# Analyze patterns within each activity level, omitting NA values
summary_by_activity_level <- dailyActivity %>%
```

```
    group_by(activity_level) %>%
    summarise(
      avg_steps = mean(total_steps),
      max_steps = max(total_steps),
      min_steps = min(total_steps)
    )

# Filter out rows where activity_level is not NA
  summary_by_activity_level <- summary_by_activity_level %>%
    filter(!is.na(activity_level))

knitr::knit_print(summary_by_activity_level)

## # A tibble: 4 × 4
##   activity_level avg_steps max_steps min_steps
##   <fct>              <dbl>     <int>     <int>
## 1 Low                2853.      4998         4
## 2 Moderate           7466.      9930      5002
## 3 High              11903.     14990     10035
## 4 Very High         18392.     36019     15010
```

Users in the 'Very High' activity level category demonstrate impressive engagement, with an average of 18,392 steps per day. This group has a broad range, from a minimum of 15,010 steps to a maximum of 36,019 steps. In contrast, users in the 'Low' category have a modest average of 2,853 steps per day, ranging from 4 to 4,998 steps.

SHARE PHASE :

Overall Insight:

In this thorough analysis, I've uncovered compelling facts and figures. The exploration of daily activity patterns showcased the ebb and flow of step counts, with an intriguing dip around mid-April and a peak in early May. The correlation analysis revealed a robust link between daily step counts and calories burned, with a coefficient of approximately 0.59. Categorizing users into activity levels exposed a diverse user landscape, from low to very high engagement. Despite the absence of demographic data, each visualization and statistic adds depth to the narrative, providing Bellabeat with valuable insights into their users' behaviors and preferences.

Recommendations:
1. Engagement Campaigns: Leverage insights from daily activity patterns to design targeted engagement campaigns. Focus on peak activity periods, encouraging users during the observed peaks and addressing lulls.
2. Caloric Awareness: With a strong correlation between step counts and calories burned, consider integrating features that provide users with real-time insights into their calorie expenditure.

3. Personalized Goals: Tailor goals based on user activity levels. Provide achievable targets for low-engagement users and challenge high-engagement users with more ambitious objectives.
4. Feature Enhancement: Enhance features promoting vigorous activities, as this category shows potential for growth.
5. User Education: Educate users about the benefits of varying activity intensities. Promote a balanced approach that includes not only vigorous exercises but also light and moderate activities.
6. User Feedback: Implement mechanisms for users to provide feedback on the app's features and overall user experience. This can provide valuable qualitative insights for continuous improvement.
7. Collaborations: Explore partnerships with fitness influencers or wellness programs to further motivate users.
8. Data Collection: Consider collecting demographic data to enable more nuanced analyses and personalized recommendations, fostering a deeper understanding of user preferences and behaviors.

Data Quality Issues:

1. Data Types: Ensure consistent and appropriate data types for columns to prevent conversion errors and maintain accuracy.
2. Outliers: Identify and address outliers in numerical columns, as they can skew analyses and visualizations.
3. Inconsistencies: Check for inconsistencies in naming conventions, units, or formats across data sets for harmonization.
4. Data Integrity: Verify the integrity of merged data sets, ensuring that the merging process didn't introduce errors or duplication.
5. Feature Engineering: Some analyses may benefit from additional derived features, such as aggregating step counts by week or month.
6. Documentation: Improve documentation to provide clarity on column meanings, units, and any transformations performed.