Package ‘gmapsdistance’

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Type Package
Title Distance and Travel Time Between Two Points from Google Maps
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Author Rodrigo Azuero Melo & Demetrio Rodriguez T & David Zarruk

URL https://github.com/rodauzero/gmapsdistance
Maintainer Rodrigo Azuero Melo <rodauzero@gmail.com>

Description Get distance and travel time between two points from Google Maps.
Four possible modes of transportation (bicycling, walking, driving and public transportation).

License GPL (>= 2)
Imports RCurl, XML, methods, stats

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get.api.key  
*Get the Google Maps API key*

**Description**

This function returns the user’s Google Maps API key that was defined with `set.api.key()`.

**Usage**

```
get.api.key()
```

**Value**

the user’s api key

**Examples**

```
get.api.key()
```

gmapsdistance  
gmapsdistance

**Description**

Compute Distance with Google Maps

**Usage**

```
gmapsdistance(
    origin,
    destination,
    combinations = "all",
    mode,
    key = get.api.key(),
    shape = "wide",
    avoid = "",
    departure = "now",
    dep_date = "",
    dep_time = "",
    traffic_model = "None",
    arrival = "",
    arr_date = "",
    arr_time = ""
)
```
Arguments

origin A string or vector of strings containing the description of the starting point(s). Should be inside of quotes (""). If more than one word for a same location is used, they should be separated by a plus sign e.g. "Bogota+Colombia". Coordinates in LAT-LONG format are also a valid input as long as they can be identified by Google Maps.

destination A string or vector of strings containing the description of the end point(s). Should be the same format as the variable "origin".

combinations When the origin and destination entries are vectors, the user can specify if the function computes all possible combinations between origins and destinations, or only pairwise distance and times. Should be inside of double quotes (",") and one of the following: "all", "pairwise".
If the combinations is set to "pairwise", the origin and destination vectors must have the same length.

mode A string containing the mode of transportation desired. Should be inside of double quotes (",") and one of the following: "bicycling", "walking", "transit" or "driving".

key In order to use the Google Maps Distance Matrix API it is necessary to have an API key. The key should be inside of quotes. Example: "THISISMYKEY". This key an also be set using set.api.key("THISISMYKEY").

shape A string that specifies the shape of the distance and time matrices to be returned. Should be inside of double quotes (",") and one of the following: "long" or "wide".
If the function is used to find the distance/time for one origin and one destination, the shape does not matter. If there is more than one city as origin or destination, "long" will return a matrix in long format and "wide" will return a matrix in wide format. The shape is set as wide by default.

avoid When the mode is set to "driving", the user can find the time and distance of the route by avoiding tolls, highways, indoor and ferries. Should be inside of double quotes (",") and one of the following: "tolls", "highways", "ferries", "indoor".
ONLY works with a Google Maps API key.

departure The time and distance can be computed at the desired time of departure. The option departure is the number of seconds since January 1, 1970 00:00:00 UCT. Alternatively, the user can use the dep_date and dep_time options to set the departure date and time.
If no value is set for departure, dep_date and dep_time, the departure time is set to the present.
ONLY works with a Google Maps API key AND MUST be according to UCT time.

dep_date Instead of using the departure option, the user can set the departure date and time using dep_date and dep_time options.
If no value is set for departure, dep_date and dep_time, the departure time is set to the present.
ONLY works with a Google Maps API key AND MUST be according to UCT time.
dep_time

Instead of using the departure option, the user can set the departure date and time using dep_date and dep_time options.
If no value is set for departure, dep_date and dep_time, the departure time is set to the present.
ONLY works with a Google Maps API key AND MUST be according to UCT time.

traffic_model

When the mode is set to "driving", the user can find the times and distances using different traffic models. Should be a string and one of the following: "optimistic", "pessimistic", "best_guess" or "None" (default).
ONLY works with a Google Maps API key and with a departure time.

arrival

The time and distance can be computed to arrive at a predetermined time. The option arrival is the number of seconds since January 1, 1970 00:00:00 UCT. Alternatively, the user can use the arr_date and arr_time options to set the arrival date and time.
The user cannot input both departure and arrival times.
ONLY works with a Google Maps API key AND MUST be according to UCT time.

arr_date

Instead of using the arrival option, the user can set the arrival date and time using arr_date and arr_time options.
The user cannot input both departure and arrival times.
ONLY works with a Google Maps API key AND MUST be according to UCT time.

arr_time

Instead of using the arrival option, the user can set the arrival date and time using arr_date and arr_time options.
The user cannot input both departure and arrival times.
ONLY works with a Google Maps API key AND MUST be according to UCT time.

Details

The function gmapsdistance uses the Google Maps Distance Matrix API in order to compute the distance(s) and time(s) between two points. In order to be able to use the function you will need an API key and enable the Distance Matrix API in the Google Developers Console For more information about how to get a key, go to https://developers.google.com/maps/documentation/distance-matrix/get-api-key#key For more information about the Google Maps Distance Matrix API go to https://developers.google.com/maps/documentation/distance-matrix/intro?hl=en

Value

A list with the traveling time(s) and distance(s) between origin(s) and destination(s) and the status

# Example 1 results = gmapsdistance(origin = "Washington+DC", destination = "New+York+City+NY", mode = "driving")
# Example 2 results = gmapsdistance(origin = "38.1621328+24.0029257", destination = "37.9908372+23.7383394", mode = "walking")
# Example 3 results = gmapsdistance(origin = c("Seattle+WA", "Miami+FL"), destination = c("Chicago+IL", "Philadelphia+PA"), mode = "bicycling", dep_date = "2022-08-16", dep_time = "20:40:00")
# Example 4
```
origin = c("Washington+DC", "Miami+FL")
destination = c("Los+Angeles+CA", "Austin+TX", "Chicago+IL")
results = gmapsdistance(origin, destination, mode = "driving", shape = "long")
```

# Example 5
```
origin = c("40.431478+-80.0505401", "33.7678359+-84.4906438")
destination = c("43.0995629+-79.0437609", "41.7096483+-86.9093986")
results = gmapsdistance(origin, destination, mode = "bicycling", shape="long")
```

# Example 6 (do not run – needs an API key)
```
# results = gmapsdistance(origin = c("Washington+DC", "New+York+NY"), destination = c("Los+Angeles+CA", "Austin+TX"), mode = "driving", departure = 1514742000, traffic_model = "pessimistic", shape = "long", key=APIkey) #
# results
```

# EXAMPLE 7 (do not run – needs an API key)
```
# results = gmapsdistance(origin = c("Washington+DC", "New+York+NY"), destination = c("Los+Angeles+CA", "Austin+TX"), mode = "driving", avoid = "tolls", key=APIkey) #
# results
```
Examples

#DONTRUN
set.api.key("MY-GOOGLE-MAPS-API-KEY")
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