Package 'gmapsdistance'

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Type Package

Title Distance and Travel Time Between Two Points from Google Maps

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URL https://github.com/jlacko/gmapsdistance

BugReports https://github.com/jlacko/gmapsdistance/issues

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 (>= 3)

Imports RCurl, XML, methods

RoxygenNote 7.3.2

Encoding UTF-8

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Contents

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

gmapsdistance *gmapsdistance*

Description

Compute Distance with Google Maps

Usage

```
gmapsdistance(
    origin,
    destination,
    combinations = "all",
    mode = "driving",
    key = get.api.key(),
    shape = "wide",
    avoid = "",
    departure = "",
    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 (""). 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 be 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".
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 UTC. 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. Note that API calls that satisfy both of these conditions: 1) departure time is specified and 2) travel mode equals "driving" (either directly or via fallback to default) incur higher cost.
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.
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.

`traffic_model` When the mode is set to "driving" and a departure time is provided 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 is "None". The traffic model is not defined for other modes of transport than driving, and providing it for e.g. mode = "walking" is illegal.

`arrival` For transportation mode "transit" 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 UTC. Alternatively, the user can use the arr_date and arr_time options to set the arrival date and time.

For transport modes other than "transit" the use of arrival (and arr_date + arr_time) is illegal.

The user cannot input both departure and arrival times.

`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.

`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.

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 3 named elements:

- **Distance**: distance between the points provided, taking into account mode of transport.
- **Time**: time of travel, taking into account mode of transport.
  In case departure time was specified, and mode was set to "driving" (either directly or via fallback default) the travel time includes delays due to traffic.
- **Status**: status of the API call.

Examples

```
## Not run:
# distance from Washington DC to NYC
gmapsdistance(origin = "Washington DC",
              destination = "New York City NY")
```

```
# distance matrix between 3 US cities
gmapsdistance(origin = c("Washington DC", "New York NY", "Seattle WA"),
              destination = c("Washington DC", "New York NY", "Seattle WA"))$Distance

## End(Not run)
```

`set.api.key` *Set the Google Maps API key*

Description

This function stores a user's Google Maps API key as the package's environmental variable

Usage

```
set.api.key(key)
```

Arguments

`key`	is the user's Google Maps API key

Examples

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

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