

# Package ‘hans’

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**Type** Package

**Title** Haversines are not Slow

**Version** 0.1

**Date** 2019-08-29

**Encoding** UTF-8

**Description** The haversine is a function used to calculate the distance between a pair of latitude and longitude points while accounting for the assumption that the points are on a spherical globe. This package provides a fast, dataframe compatible, haversine function. For the first publication on the haversine calculation see Joseph de Mendoza y Ríos (1795) <<https://books.google.cat/books?id=030t00qlX2AC>> (In Spanish).

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**Imports** Rcpp (>= 1.0.1)

**LinkingTo** Rcpp

**Suggests** testthat (>= 2.1.0)

**RoxygenNote** 6.1.1

**NeedsCompilation** yes

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**Repository** CRAN

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haversine	<i>Calculate the haversine distance in kilometers given lat/lon pairs</i>
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**Description**

Calculate the haversine distance in kilometers given lat/lon pairs

**Usage**

```
haversine(lat1, lon1, lat2, lon2)
```

**Arguments**

lat1	A vector of latitudes
lon1	A vector of longitudes
lat2	A vector of latitudes
lon2	A vector of longitudes

**Value**

a vector of distances in kilometers

**Examples**

```
# simple haversine calculation
lon1 <- runif(-160, -60, n = 10e6)
lat1 <- runif(40, 60, n = 10e6)
lon2 <- runif(-160, -60, n = 10e6)
lat2 <- runif(40, 60, n = 10e6)
df <- data.frame(lat1, lon1, lat2, lon2)
df$havers <- haversine(df$lat1, df$lon1, df$lat2, df$lon2)
```

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