

How can I use difftime in R to calculate time differences?

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Difftime in R is a useful function that allows users to calculate time differences between two specified dates or times. This function takes in two parameters, the start and end times, and returns the difference in seconds, minutes, hours, days, or weeks. By using difftime, users can accurately measure the time elapsed between two events or moments, and perform various time-related calculations. This function is particularly helpful in statistical analysis, data manipulation, and time series analysis tasks in R programming.

Use difftime in R to Calculate Time Differences

You can use the `difftime()` function to calculate the time difference between two dates or datetimes in R.

This function uses the following basic syntax:

```
difftime(time1, time2, units="days")
```

where:

time1, time2: The two dates or datetimes
units: The units to use for time difference (default is "days", but other options include "secs", "mins", "hours", and "weeks")

The following examples show how to use the `difftime()` function in different scenarios.

Example 1: Use `difftime()` to Calculate Time Difference in Various Units

The following code shows how to use the `difftime()` function to calculate the time difference between two

datetimes using various units:

#define two datetimes

first <- "2022-08-20 08:15:22"

second <- "2022-01-01 20:04:48"

#calculate time difference in days

difftime(first, second)

Time difference of 230.5073 days

#calculate time difference in seconds

difftime(first, second, units="secs")

Time difference of 19915834 secs

#calculate time difference in minutes

difftime(first, second, units="mins")

Time difference of 331930.6 mins

#calculate time difference in hours

difftime(first, second, units="hours")

Time difference of 5532.176 hours

#calculate time difference in weeks

```
difftime(first, second, units="weeks")
```

Time difference of 32.92962 weeks

By using the units argument, we can calculate the time difference between the two datetimes in different units.

Example 2: Calculate Time Difference in HH:MM:SS Format

We can also use the as_hms() function from the hms library to calculate the time difference between two datetimes, formatted as HH:MM:SS.

```
library(hms)
```

```
#define two datetimes
```

```
first <- "2022-01-01 20:15:22"
```

```
second <- "2022-01-01 08:04:48"
```

```
#calculate difference between datetimes in hours,  
minutes, seconds
```

```
as_hms(difftime(first, second))
```

```
12:10:34
```

The output shows the time difference between the two

datetimes, formatted in terms of hours, minutes, and seconds.

In this scenario, the difference between the two times is 12 hours, 10 minutes, and 34 seconds.

Additional Resources

The following tutorials explain how to perform other common tasks in R:

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