

# Can you provide an example of subtracting hours from time in R?

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## RECOMMENDED CITATION

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The process of subtracting hours from time in R involves using the appropriate functions and operators to manipulate the time data. This can be achieved by converting the time data into a specific format, such as POSIXct, and then using the appropriate functions, such as as.POSIXct and difftime, to perform the subtraction. Additionally, operators such as the minus sign can also be used to directly subtract a specific number of hours from the time data. Overall, subtracting hours from time in R requires a basic understanding of time data structures and the use of appropriate functions and operators to accurately manipulate the data.

## Subtract Hours from Time in R (With Examples)

You can use one of the following methods to subtract a certain number of hours from a time in R:

### Method 1: Use Base R

```
#create new column that subtracts 4 hours from time  
df$subtract4 <- df$time - (4*3600)
```

### Method 2: Use lubridate Package

```
library(lubridate)
```

```
#create new column that subtracts 4 hours from time  
df$subtract4 <- df$time - hours(4)
```

The following examples show how to use each method with the following data frame:

### #create data frame

```
df <- data.frame(time=as.POSIXct(c('2022-01-03
08:04:15', '2022-01-05 14:04:15',
'2022-01-05 20:03:53', '2022-01-06 03:29:13',
'2022-01-06 06:15:00', '2022-01-07 10:48:11'),
format='%Y-%m-%d %H:%M:%OS'),
sales=c(130, 98, 240, 244, 174, 193))
```

### #view data frame

```
df
```

### time sales

```
1 2022-01-03 08:04:15 130
2 2022-01-05 14:04:15 98
3 2022-01-05 20:03:53 240
4 2022-01-06 03:29:13 244
5 2022-01-06 06:15:00 174
6 2022-01-07 10:48:11 193
```

**Note:** To add hours to a date, simply change the subtraction sign to an addition sign in either of the formulas above.

### Example 1: Subtract Hours from Time Using Base R

The following code shows how to create a new column called `subtract4` that subtracts four hours from each value in the `time` column:

```
#create new column that subtracts 4 hours from time  
df$subtract4 <- df$time - (4*3600)
```

```
#view updated data frame  
df
```

```
time sales subtract4
```

```
1 2022-01-03 08:04:15 130 2022-01-03 04:04:15  
2 2022-01-05 14:04:15 98 2022-01-05 10:04:15  
3 2022-01-05 20:03:53 240 2022-01-05 16:03:53  
4 2022-01-06 03:29:13 244 2022-01-05 23:29:13  
5 2022-01-06 06:15:00 174 2022-01-06 02:15:00  
6 2022-01-07 10:48:11 193 2022-01-07 06:48:11
```

Notice that the values in the new `subtract4` column are equal to the values in the `time` column with four hours subtracted from them.

**Note:** We use  $(4*3600)$  in the formula because time values are stored as seconds in R. Since there are 3,600 seconds in one hour, we must multiply 4 by 3,600 to

## subtract 4 hours.

### Example 2: Subtract Hours from Time Using lubridate Package

The following code shows how to use the `hours()` function from the package to create a new column called `subtract4` that subtracts four hours from each value in the `time` column:

```
library(lubridate)
```

```
#create new column that subtracts 4 hours from time
```

```
df$subtract4 <- df$time - hours(4)
```

```
#view updated data frame
```

```
df
```

```
time sales subtract4
```

```
1 2022-01-03 08:04:15 130 2022-01-03 04:04:15
```

```
2 2022-01-05 14:04:15 98 2022-01-05 10:04:15
```

```
3 2022-01-05 20:03:53 240 2022-01-05 16:03:53
```

```
4 2022-01-06 03:29:13 244 2022-01-05 23:29:13
```

```
5 2022-01-06 06:15:00 174 2022-01-06 02:15:00
```

```
6 2022-01-07 10:48:11 193 2022-01-07 06:48:11
```

Notice that the values in the new `subtract4` column are

**equal to the values in the time column with four hours subtracted from them.**

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