How to detect start and end of constant periods? [duplicate]

Asked 7 years, 4 months ago Modified 7 years, 4 months ago Viewed 332 times

Part of R Language Collective

1

This question already has an answer here:

R pick up the starting date and ending date of the Recession period [closed] (1 answer)

Closed 7 years ago.

I'm trying to plot recession shading periods in R. Consider the following example, where recession periods are recognized as 1, and non-recession periods are 0.

```
Date           Recession
1918-09-01     1
1918-10-01     1
1918-11-01     1
1918-12-01     1
1919-01-01     1
1919-02-01     1
1919-03-01     1
1919-04-01     0
1919-05-01     0
1919-06-01     0
1919-07-01     0
1919-08-01     0
1919-09-01     0
1919-10-01     0
1919-11-01     0
1919-12-01     0
1920-01-01     0
1920-02-01     1
1920-03-01     1
1920-04-01     1
1920-05-01     1
```

Can anyone help me to pick up the starting dates and ending dates of the recession periods? Expected output:

```
Start                End
1918-09-01     1919-03-01
1920-02-01     1920-05-01
```

Similar question has been asked a few years ago, but I think the answer is not able to solve this question.

R r time-series

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asked Jul 28, 2017 at 10:46

James

57 ● 5

have you looked at `?rle` yet? – Ben Bolker Jul 30, 2017 at 21:15

1 Answer

Sorted by: Highest score (default)

2

```
data <- read.csv('recession.csv')

# Add new first and last row to the data, to enable the detection of change
# in the beginning and in the end of the time series.
data <- rbind(c(NA, ifelse(data$Recession[1] == 1, yes = 0, no = NA)),
              data,
              c(NA, ifelse(data$Recession[length(data$Recession)] == 1, 0,
NA)))

# Create new data frame containing the start and end of each recession period.
# The periods are detected via built in diff function which calculates
# differences between all consecutive values in a vector.
recession.periods <- data.frame(
    Start = data$Date[which(diff(data$Recession, lag = 1) == 1) + 1],
    End = data$Date[which(diff(data$Recession, lag = 1) == -1)])
```

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answered Jul 30, 2017 at 19:01

tuomastik

4,896 ● 6 ● 44 ● 50