Homework2

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Write up the report of homework 2 in the Rmarkdown format. It could be as the format of pdf or word. Please carefully address following questions and add your interpretations.

Attention!

1. R code should be appeared with your analysis (graphs, interpretations) as the Rmarkdown format.
2. Your interpretation is important as well as the analysis. Only analysis without your interpretation would have not good score.
3. If you do not complete the homework with rmarkdown, zero point will be assigned.
4. If there is a suspicious case that you copy or several of you copy the homework each other, all of you would have zero point for homework.
5. Best homework report would be uploaded in the Plato. Best homework would have an additional point, which will be applied to your final grade.

Read the data

```
spot<-read.csv('spot.csv')
```

1. Draw time series graph of sun spot. Do you see any cycle or seasonal effect?

2. try 5-point moving average smoothing. Draw the plot of original graph in black, 4 point MA smoothing in red, mean value in blue.

3. Check the residual plot, check the stationary and the test the independence assumption. Carefully interpret the residual analysis.

4. Fit the simple exponential smoothing with alpha=0.1 and with the optimized alpha. If you think we need a trend, or seasonal, or both try them. Please address all the moeling and show how you find the best exponential smoothing model for spot data.

5.From your best model, find the forecast of next 4 points.