AIC and model building

Тест, 2 вопроса

1
Баллы

1.

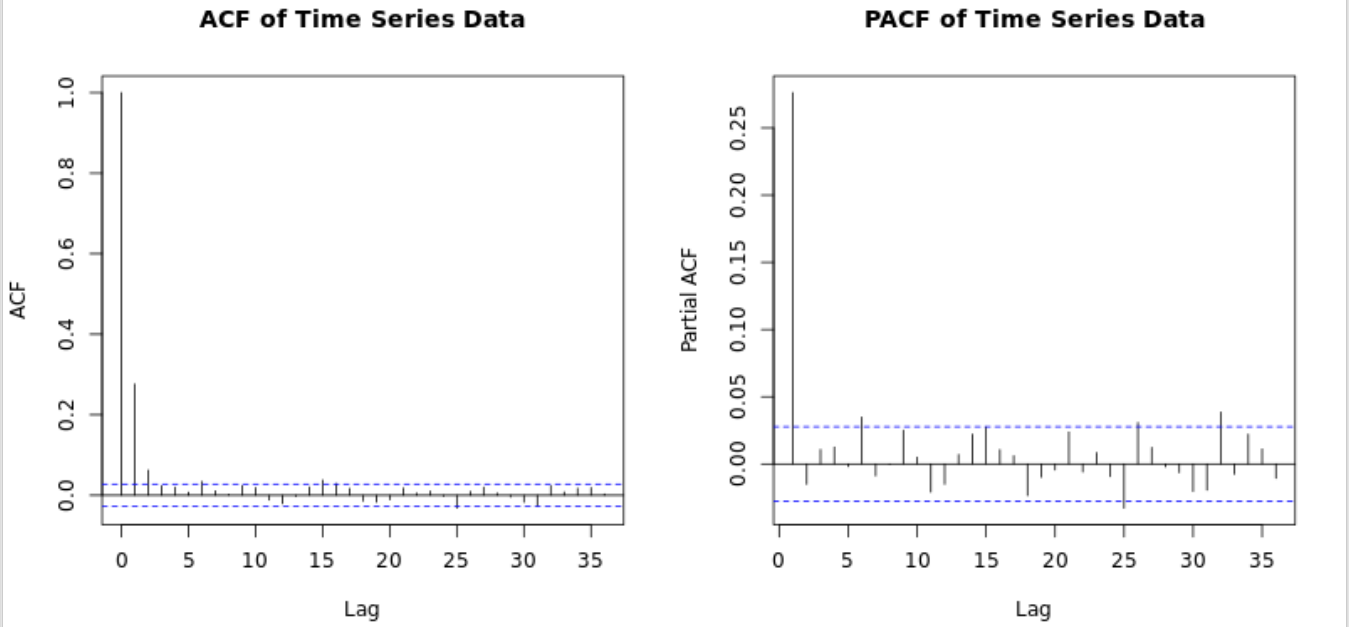
We will cheat a little and generate a data set, then see how the AIC performs to select the order of the model.

First, we generate a 1st order AR model and look at the ACF and the PACF.

```
1  rm(list=ls(all=TRUE))
2  set.seed(597) # Saint Augustine arrives in England
3  data = arima.sim( list(order = c(1,0,0), ar = .3), n = 5000)
4
5  par(mfrow=c(1,2))
6  acf(data, main="ACF of Time Series Data")
7  acf(data, type="partial", main="PACF of Time Series Data")
```

Выполнить

Сбросить



Which plot tells us the likely order of the AR(p) process?

- The ACF
- The PACF

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2.

We now make a few calls to determine the order according to the AIC. We've placed the code for the 1st order model. Make a couple of calls to arima() to get the second and third order fitted models.

```
rm(list=ls(all=TRUE))
set.seed(597) # Saint Augustine arrives in England
data = arima.sim( list(order = c(1,0,0), ar = .3), n = 5000);
arima(data, order=c(1,0,0) );

arima(data, order=c(2,0,0) );

arima(data, order=c(2,0,0) );


```

Выполнить

Сбросить

```
Call:
arima(x = data, order = c(1, 0, 0))

Coefficients:
         ar1  intercept
      0.2762    -0.0084
s.e.  0.0136     0.0197

sigma^2 estimated as 1.016:  log likelihood = -7134.7,  aic = 14275.4

Call:
arima(x = data, order = c(2, 0, 0))

Coefficients:
         ar1      ar2  intercept
      0.2804  -0.0151    -0.0085
s.e.  0.0141   0.0141     0.0194

sigma^2 estimated as 1.016:  log likelihood = -7134.13,  aic = 14276.26

Call:
arima(x = data, order = c(2, 0, 0))

Coefficients:
         ar1      ar2  intercept
      0.2804  -0.0151    -0.0085
s.e.  0.0141   0.0141     0.0194

sigma^2 estimated as 1.016:  log likelihood = -7134.13,  aic = 14276.26
```

Which order model has the lowest AIC?

- (●) 1st order model
- ( ) 2nd order model
- ( ) 3rd order model

Я понимаю, что отправка работы, выполненной не мной, может привести к тому, что курс не будет засчитан, а аккаунт Coursera заблокирован.

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Введите Ф. И. О. (как в удостоверении личн

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