

AIC and model building

2/2 points (100.00%)

Quiz, 2 questions

✓ Congratulations! You passed![Next Item](#)1 / 1
points

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")
```

[Run](#)[Reset](#)

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



The ACF



The PACF

Correct

Very good...The PACF is helpful when we have a pure AR process.

1 / 1
points

2.

AIC and model building

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.

2/2 points (100.00%)

Quiz, 2 questions

```
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 arima(data, order=c(1,0,0) )
5 arima(data, order=c(2,0,0) )
6 arima(data, order=c(3,0,0) )
7
8
```

Run

Reset

Which order model has the lowest AIC?

☒ 1st order model

**Correct**

Yes! Though the difference is not great.

☐ 2nd order model

☐ 3rd order model

