**Tutorial set #3**

**Question 1:**

Write the Yule-Walker equations for every model of the following, where :

2. find for the models in (1) and (2).

**Question 2:**

Assume , and let the observed series be defined as

Where the parameter can take either the value or .

1. Find the autocorrelation function of the series for both cases, compare them.
2. Is the process stationary in both cases?
3. For simplification, assume that the mean of the process equal zero, and the variance is equal to one, and that you obtained the observed series for , and that you have obtained a credible estimates for the coefficients of the ACF , can you tell which process generated the data (i.e. which value or to be used in the model to model the data?)

**Question 3:** Write the following models using the backshift operator B:

1. :

**Question 4:**

Express the following models in terms of the process and :

**Question 5:**

Open the MINITAB program, and get acquainted with following icons:

1. The icon for “Time series Plot”.
2. The icon for “Differences”.
3. The icon for “lag”.
4. The icon for “Autocorrelation function”.
5. The icon for “Partial Autocorrelation function”.