

# ARIMA model for forecasting– Example in R

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## Introduction

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ARIMA (autoregressive integrated moving average) is a commonly used technique utilized to fit time series data and forecasting. It is a generalized version of ARMA (autoregressive moving average) process, where the ARMA process is applied for a differenced version of the data rather than original.

Three numbers  $p$ ,  $d$  and  $q$  specify ARIMA model and the ARIMA model is said to be of order  $(p, d, q)$ . Here  $p$ ,  $d$  and  $q$  are the orders of AR part, Difference and the MA part respectively.

AR and MA- both are different techniques to fit stationary time series data. ARMA (and ARIMA) is a combination of these two methods for better fit of the model.

In this write up an overview of AR and MA process will be given. The steps of building an ARIMA model will be explained. Finally a demonstration using R will be presented.

