

# Module 9: Time Series Analysis

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## Assignment

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### Time Series Analysis:

Analyze the information given in the Cow milk production dataset and predict the values using ARIMA and HoltWinters model. Check which model can give higher accuracy on this data

The dataset can be loaded using this link:

[https://edureka.wistia.com/medias/5q3peveuy1/download?media\\_file\\_id=197085524](https://edureka.wistia.com/medias/5q3peveuy1/download?media_file_id=197085524)

	A	B
1	Month	Monthly milk production: pounds per cow. Jan 62 to Dec 75
2	1962-01	589
3	1962-02	561
4	1962-03	640
5	1962-04	656
6	1962-05	727
7	1962-06	697
8	1962-07	640
9	1962-08	599
10	1962-09	568
11	1962-10	577
12	1962-11	553
13	1962-12	582
14	1963-01	600
15	1963-02	566
16	1963-03	653
17	1963-04	673
18	1963-05	742
19	1963-06	716
20	1963-07	660

The description of the attributes in the dataset are as follows:

- Month – month and year as independent time variable, from Jan 62 to Dec 75.
- Monthly milk production – Monthly milk production: pounds per cow, from Jan 62 to Dec 75.

Perform the following tasks on the dataset

**Task 1:** Load the Data into R

- Create two Time Series data, with training set till 1974 and test set only containing the year 1975.
- Plot the data for analyzing trend and seasonality.

**Task 2:** Predict the values for the year 1974 to 1975 using ARIMA model and HoltWinters model

- Compare the predicted values with actual values through visualization.
- Repeat the above step for both the models and check which one performs better.

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