



Session 33

Assignment 1 Question

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1. Introduction

This assignment will help you to consolidate the concepts learnt in the session.

2. Problem Statement

In this assignment students have to make ARIMA model over shampoo sales data and check the MSE between predicted and actual value.

Student can download data in .csv format from the following link:

<https://datamarket.com/data/set/22r0/sales-of-shampoo-over-a-three-year-period#!ds=22r0&display=line>

Hint:

Following is the command import packages and data

```
from pandas import read_csv
```

```
from pandas import datetime
```

```
from matplotlib import pyplot
```

```
from statsmodels.tsa.arima_model import ARIMA
```

```
from sklearn.metrics import mean_squared_error
```

```
def parser(x):
```

```
    return datetime.strptime('190'+x, '%Y-%m')
```

```
series = read_csv('shampoo-sales.csv', header=0, parse_dates=[0], index_col=0, squeeze=True, date_parser=parser)
```

NOTE: The solution shared through Github should contain the source code used and the screenshot of the output.

3. Output

N/A