**Forecasting Stock Price**

**For the given “SBI\_Historical\_Data”. Below is the data description:**

| Column | Description |
| --- | --- |
| Date | date on which data is recorded |
| Price | Unique number assigned to each category of the video |
| Open | current day open point |
| High | current day highest point |
| Low | current day lowest point |
| Vol | the amount of a security that was traded during a given period of time. For every buyer, there is a seller, and each  transaction contributes to the count of total volume. |
| Change % | % change in the current value and the previous day's market close |

**Perform the following tasks:**

**Q1. As part of EDA, perform the following tasks:**

1. **Print dimensions of the data**
2. **Dimensions of Dataset**
3. **Statistical Summary**
4. **Converting Date**
5. **Check Data Type and Missing Values**
6. **Index the dataset with Date**

**Q2. Perform time series analysis:**

1. **Visualize time series data**
2. **Check Stationarity with**

**- ADF Test**

**- KPSS Test**

1. **Perform decomposing**

**Q.3 Forecast about the stock price using ARIMA. Steps to be performed:**

1. **Parameter Selection using gridsearch**
2. **Fit ARIMA model as per the selected optimum value of parameters**
3. **Validate forecast**
4. **Calculate the MSE and RMSE**
5. **Visualize the forecast**