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| Name Of The Student | Kanak Sahu |
| Internship Project Topic | **“RIO-125: Forecasting System - Project Demand of Products at a Retail Outlet Based on Historical Data.”** |
| Name of the Organization | TCS iON |
| Name of the Industry Mentor | Himalaya Ashish |
| Name of the Institute | Symbiosis University of Applied Sciences |

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| Date | Day # | Hours Spent |
| 11/03/21 | Friday(Day-10) | 4 |
| Activities done during the day:  Here’s what I got Information from medium stories.  The ability to make predictions based upon historical observations creates a competitive advantage. For example, if an organization has the capacity to better forecast the sales quantities of a product, it will be in a more favourable position to optimize inventory levels. This can result in an increased liquidity of the organizations cash reserves, decrease of working capital and improved customer satisfaction by decreasing the backlog of orders.  In the domain of machine learning, there’s a specific collection of methods and techniques particularly well suited for predicting the value of a dependent variable according to time. In the proceeding article, we’ll cover AutoRegressive Integrated Moving Average (ARIMA).  We refer to a series of data points indexed (or graphed) in time order as a **time series**. A time series can be broken down into 3 components.   * **Trend:**Upward & downward movement of the data with time over a large period of time (i.e. house appreciation) * **Seasonality:**Seasonal variance (i.e. an increase in demand for ice cream during summer) * **Noise:**Spikes & troughs at random intervals   Image for post  Image for post  Before applying any statistical model on a time series, we want to ensure it’s stationary.  Image for post  Image for post  If a time series is stationary and has a particular behaviour over a given time interval, then it is safe to assume that it will have same behaviour at some later point in time. Most statistical modelling methods assume or require the time series to be stationary. | | |