# Business Forecasting Assignment

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**Problem:**  
Find the time series data on which you want to practice creating Forecasting Models.   
The periodicity of the data should be monthly or quarterly.   
You are required to submit the following in your GitHub directory  
  
Answer:   
  
**1. The Data File in Excel or CSV format** – Uploaded.

**2. Detailed description of the data:** Sunspots are temporary phenomena on the Sun's photosphere that appear as spots darker than the surrounding areas. They are regions of reduced surface temperature caused by concentrations of magnetic field flux that inhibit convection. Sunspots usually appear in pairs of opposite magnetic polarity. Their number varies according to the approximately 11-year solar cycle.   
This dataset comprises of the monthly mean total sunspots from 1/31/2000 to 1/31/2021.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | **Variable Name** | **Measurement Unit** | **Allowed Values** | **Description** |
| Date | Date | MM-DD-YYYY | 1/31/2000 - 1/31/2021 | Observation Dates for the sunspots |
| Monthly Mean Sunspot Number | MMSN | Units | 0.00-250.00 | Monthly Mean Total Sunspot Number |

3. **Data Collection Methodology (2 points). State how the data is collected, by whom, how often, etc.**

Data is collected from SIDC which is known as Solar Influences Data Analysis Center - the solar physics research department of the Royal Observatory of Belgium. Sunspot numbers also change over long periods. The data has been collected from the dates 1/31/2000 - 1/31/2021 on the observations made about the sunspots daily and the average was recorded at the end of every month. Sunspots are observed with land-based and Earth-orbiting solar telescopes. These telescopes use filtration and projection techniques for direct observation, in addition to various types of filtered cameras. Specialized tools such as spectroscopes and spectrohelioscopes are used to examine sunspots and sunspot areas.

4. Why does this data set intrigue you?  
  
One of the major reasons why I worked on this dataset is that I found it quite simple and visually appealing to work upon. I’ve a strong proclivity for the phenomenon which is associated with space, and this was bridging the gap between Science and Data. Due to their correlation with other kinds of solar activity, sunspots can be used to help predict space weather, the state of the ionosphere, and conditions relevant to short-wave radio propagation or satellite communications. It’ll be a dataset which I’ll be able to forecast in the best manner and understand the trends.