1. What You Need

Before running the program, you must update the input data:

- Go to the Excel Worksheet named “Input”
- In the table “Item/Week” add demand data observed previous week, write “0” if no demand obtained
- In case of defining a new item, add its demand data at the end the table
- Go to the Excel Worksheet named “Input(inventory)” fill the following data (list of items must have same order): lead time (weekly), batch size, target fill rate (percentage), resized variation, and resized mean. By using last two columns calculate resized variation/mean in the next column

2. How to run the program

- Go to the Excel Worksheet named “Input”
- Select “Confidence Interval”
- Click first “Forecast” button to estimate future demand and this output is needed for inventory section
- Click “Inventory Control” button

3. Parameters

To adjust the forecast parameters, you can do the following:

- **Cut-off points:**
  - Right click on the Excel tab with the name “Input” and click on “View code”
  - Search for the “Forecast” portion of the code (Highlighted in green) and change the values in the inequalities at the start:
- **Alpha:**

4. Test sheet

The “Test” Worksheet is for internal use of the program and updates itself.

- In case you wish to increase or decrease the number of weeks in the input file, the same must be done in the two corresponding places of this Worksheet

5. Calculation of safety stock:

- Calculate demand during the lead time \( D(L) = \text{Lead time} \times \text{Forecast} \)
- Subtract: \( R - D(L) \), \( R \) is in the Excel Worksheet named “Results” column “O”

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User Guide for Forecasting and Inventory Control Program

\[
\begin{align*}
&\text{If } cvSq < 0.7 \text{ And } pvalue < 2.9 \text{ Then} \\
&\quad \text{Sheets("Results").Cells(x, 10).Value = "Smooth"} \\
&\text{ElseIf } cvSq < 0.7 \text{ And } pvalue > 2.9 \text{ Then} \\
&\quad \text{Sheets("Results").Cells(x, 10).Value = "Slow"} \\
&\text{ElseIf } cvSq > 0.7 \text{ And } pvalue < 2.9 \text{ Then} \\
&\quad \text{Sheets("Results").Cells(x, 10).Value = "Erratic"}
\end{align*}
\]

- **Alpha:**
  - Alpha is the smoothing coefficient, but there are 3 of them:
    - **Alfa:** Smoothing coefficient of the forecast \( F_t \)
      - Follow the same first step from the previous parameter
      - Search for the “Forecast” portion of the code (Highlighted in green) and change the value of the “Alfa” parameter found at the beginning
    - **Alfaj and alfas:** Smoothing coefficients for \( p_t \) and \( z_t \)
      - Follow the same first step from the previous parameter
      - Search for the “Iterative Method” portion of the code (Highlighted in green) and change the values of the “alfaj” and “alfas” parameters found at the beginning.