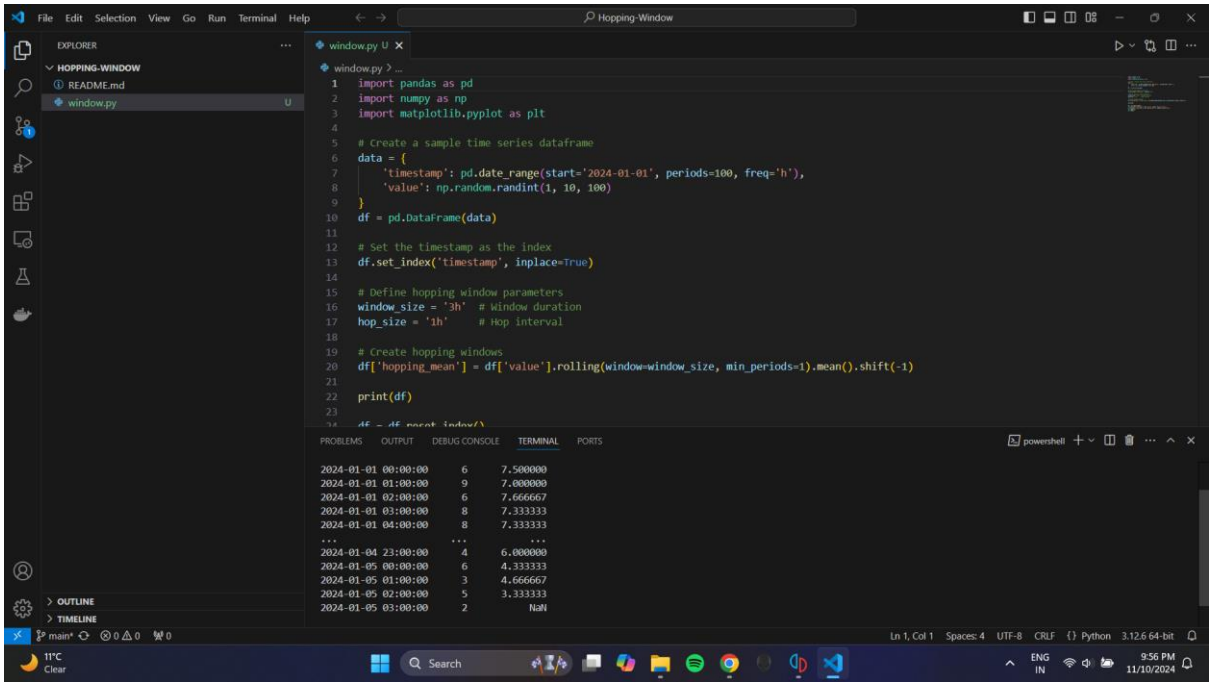
Hopping Window Assignment Report

I have implemented a basic application that generates random values between 1 and 10 to store temperature for 100 consecutive hours. This gives us a dataframe containing temperature data for one hour periods for a total of 100 hours. By configuring window size of 3 hours and hop size of 1 hour, we are able to calculate hopping mean for each hour in the data.

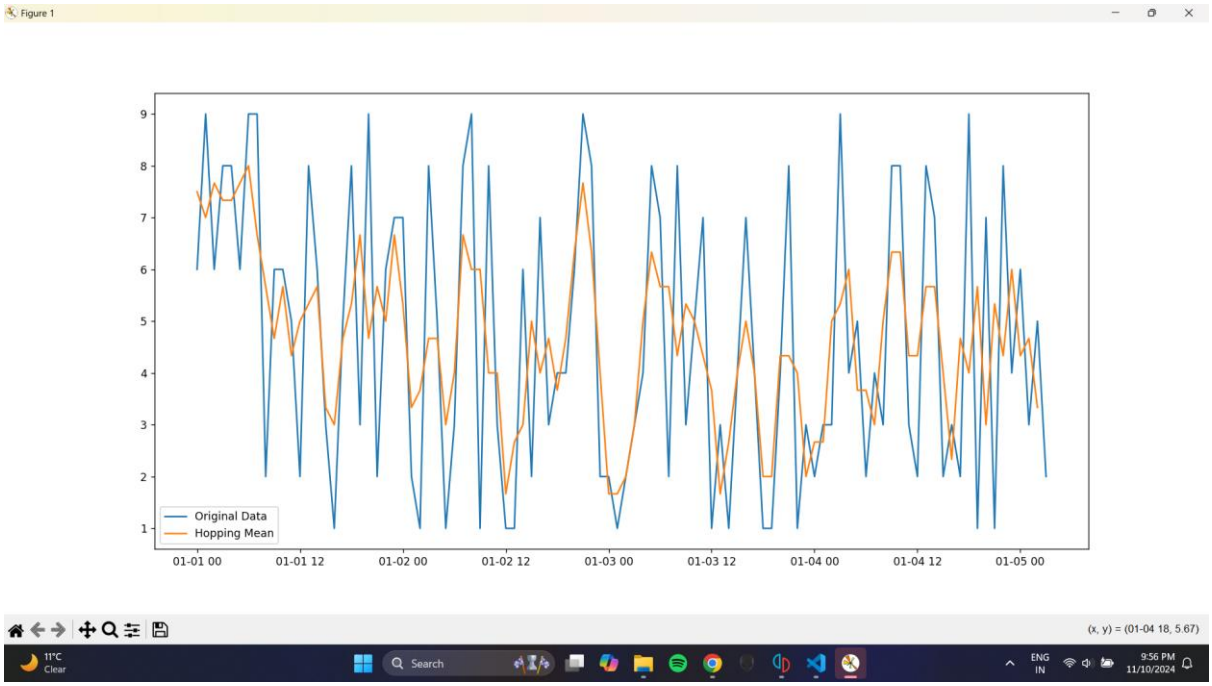
The calculation is done by taking the average of temperatures in a 3 hour window, considering the previous hour's value, the current hour's value, and the next hour's value.

$$Hopping\ Window\ Mean\ Temperature\ (n) = \frac{Temp(n-1) + Temp(n) + Temp(n+1)}{3}$$

The application runs over the data and calculates the hopping mean temperature for each data point. The result looks as follows:



It also generates a data visualization for the same, displaying the temperature and hopping window mean temperature for each data point.



The code for the same can be found on GitHub.