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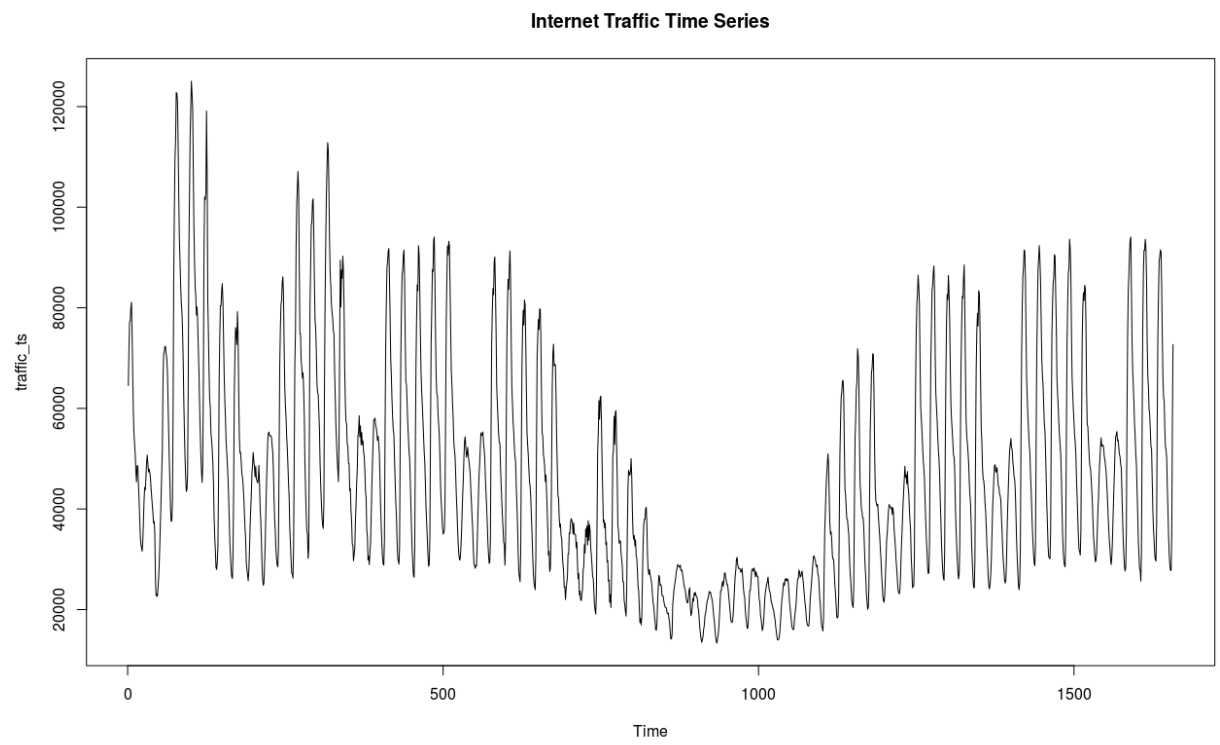
1. One can observe a semi-periodic behavior between 2009 and mid 2014, however between 2014 and 2015 a major decline is present. Between 2015 and 2017 another periodic series is present. From the beginning of 2017 to 2018 a near-constant increase occurs.

Image of time series data for USD exchange rate with Euro between Jan 2009 and Jan 2018 from <https://fred.stlouisfed.org/series/DEXUSEU>



2. Observing the traffic data, the peaks seem to occur between noon and 3pm every day. However, around Christmas and the beginning of the new year the amount of traffic significantly

decreases. This most likely corresponds to many businesses being closed during this time period



5.



- a.
- c. In these two examples, the random normal distribution in part A is stationary as at any point you are equally likely (assuming true randomness) to obtain any point within the min and max range. This random distribution has no true trends as it is random and is equally likely to be a max or min value. The random walk however is not stationary as the variance depends on time. In this case, the variance of the points grows with time.