

TSA Practical 2 Report

Tasks

(a) Dataset Library

The `nottem` dataset is part of the standard R `datasets` package.

```
library(datasets)
```

(b) Loading the Dataset

We load the data into the environment using:

```
data(nottem)
```

(c) Description and Characteristics

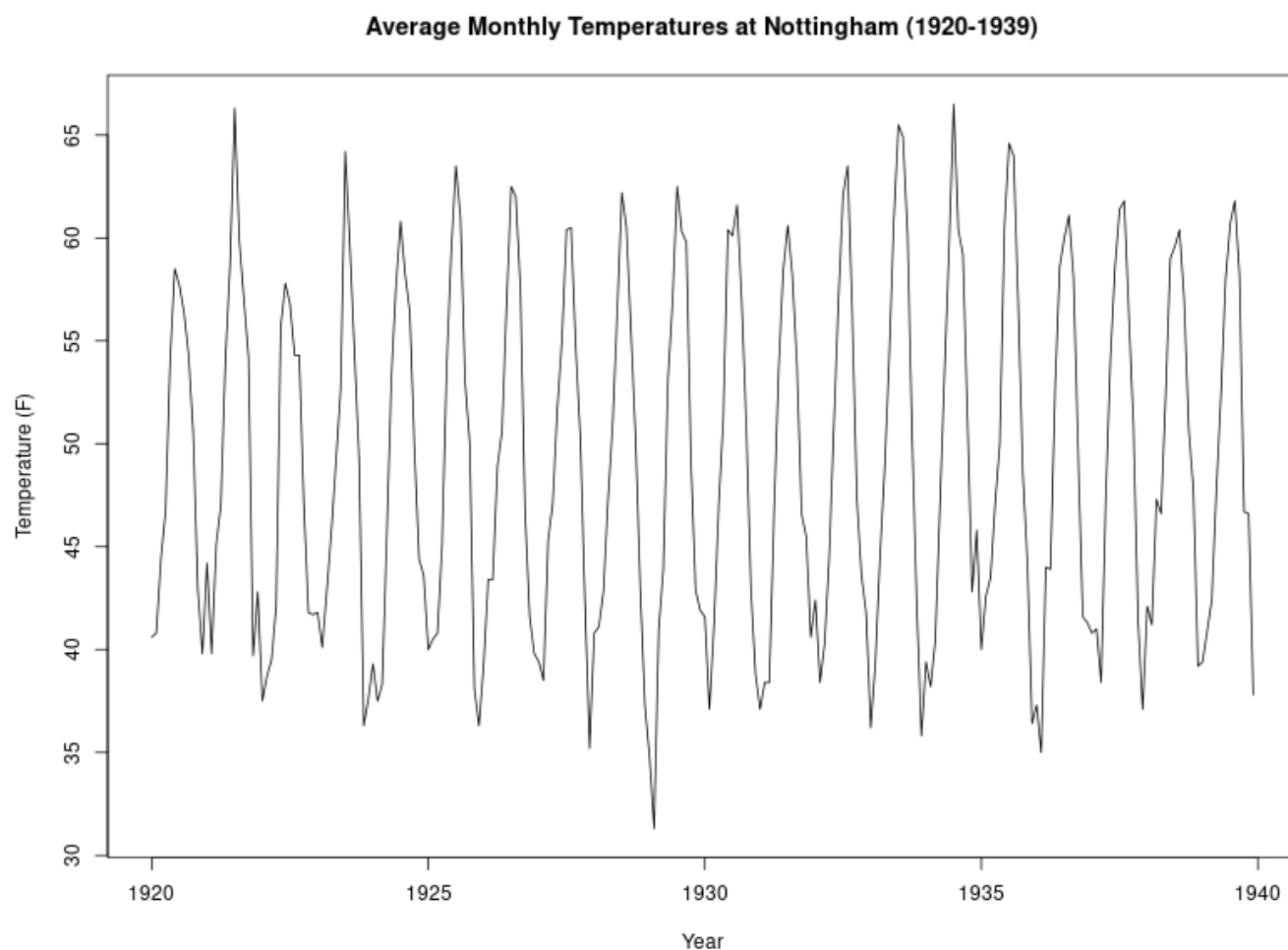
The `nottem` dataset contains **Average Monthly Temperatures at Nottingham, 1920–1939**. It is a time series object of length 240.

- **Unit:** Degrees Fahrenheit.
- **Range:** 1920 to 1939.
- **Summary Characteristics:**
 - Min: 31.30
 - Mean: 49.04
 - Max: 66.50

(d) Sampling Frequency

The sampling frequency is **12**, which corresponds to **Monthly** data. This means there are 12 observations per unit of time (1 year).

(e) Plot and Observations



Observations

- **Pattern:** The plot exhibits a very strong, consistent **Seasonal** pattern.
- **Seasonality:** The temperature rises and peaks in the middle of each year (Summer) and drops to a trough at the beginning/end of each year (Winter). This cycle repeats annually.
- **Trend:** There is **no apparent long-term trend** (stationary in the mean); the average temperatures appear roughly constant across the 20-year period.