

Task 2

Resources

- <https://www.weather.gov/documentation/services-web-api>
- <https://api.weather.gov/points/42.2813,-71.355>
- <https://api.weather.gov/gridpoints/BOX/62,85/forecast/hourly>

Table of Contents

| | |
|-----------------------------------|---|
| Get weather from web service..... | 1 |
| Build Timetable..... | 1 |
| Plot data over time..... | 2 |
| Export data..... | 2 |
| Create reports..... | 2 |

Get weather from web service

```
jason = webread("https://api.weather.gov/gridpoints/BOX/62,85/forecast/hourly");  
% pol = jason.geometry.coordinates; geosscatter(pol(:, :, 1), pol(:, :, 2))
```

Build Timetable

```
T = struct2table(jason.properties.periods);  
time = datetime(T.startTime, "InputFormat", "uuuu-MM-dd'T'HH:mm:sssZZZZZ", "TimeZone", "America/New_York");  
temperature = T.temperature;  
TT = timetable(time, temperature)
```

TT = 156x1 timetable

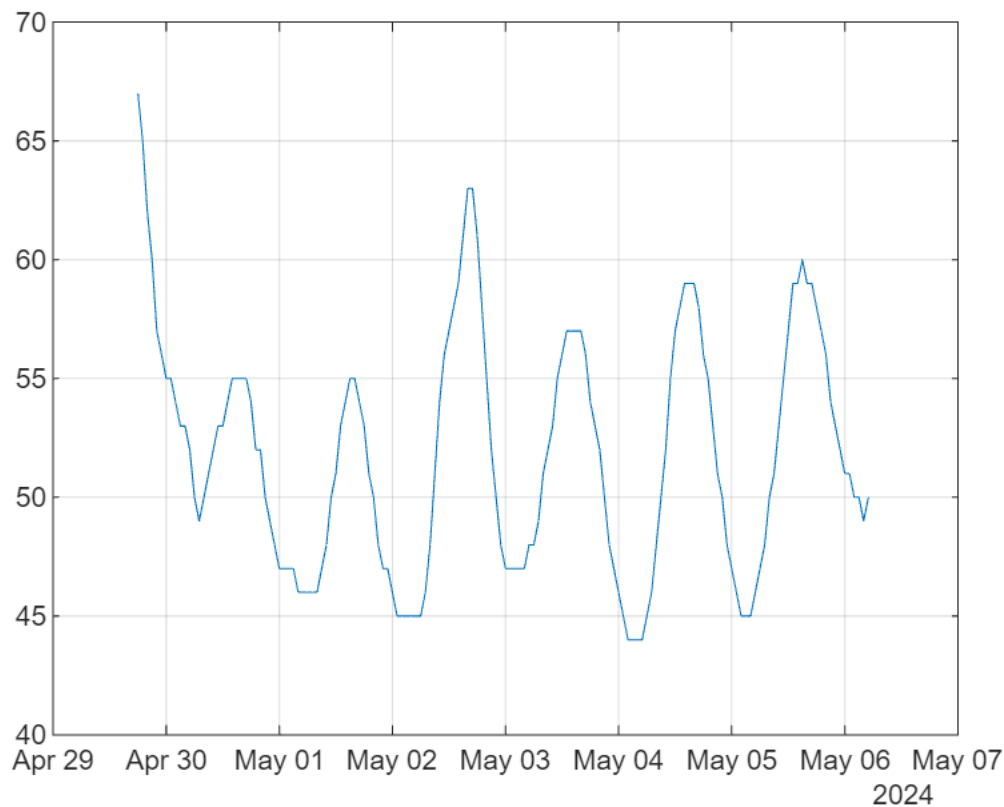
| | time | temperature |
|----|----------------------|-------------|
| 1 | 29-Apr-2024 18:00:00 | 67 |
| 2 | 29-Apr-2024 19:00:00 | 65 |
| 3 | 29-Apr-2024 20:00:00 | 62 |
| 4 | 29-Apr-2024 21:00:00 | 60 |
| 5 | 29-Apr-2024 22:00:00 | 57 |
| 6 | 29-Apr-2024 23:00:00 | 56 |
| 7 | 30-Apr-2024 00:00:00 | 55 |
| 8 | 30-Apr-2024 01:00:00 | 55 |
| 9 | 30-Apr-2024 02:00:00 | 54 |
| 10 | 30-Apr-2024 03:00:00 | 53 |
| 11 | 30-Apr-2024 04:00:00 | 53 |
| 12 | 30-Apr-2024 05:00:00 | 52 |

| | time | temperature |
|----|----------------------|-------------|
| 13 | 30-Apr-2024 06:00:00 | 50 |
| 14 | 30-Apr-2024 07:00:00 | 49 |

⋮

Plot data over time

```
plot(TT.time,TT.temperature)
grid on
```



Export data

```
writetimetable(TT, 'Data/natick.csv')
```

Create reports

```
export('Tasks/task2.mlx', 'Reports/task2.md');
export('Tasks/task2.mlx', 'Reports/task2.ipynb');
export('Tasks/task2.mlx', 'Reports/task2.docx');
export('Tasks/task2.mlx', 'Reports/task2.pdf');
export('Tasks/task2.mlx', 'Reports/task2.html');
```