Python Seminar 2018

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Plan for today

1. Homework
2. Matplotlib
3. Plotting your ABM

matplotlib

- **Visualization of arrays**
- **Origin in MATLAB**

```
import matplotlib.pyplot as plt  # import package for plotting

x_data = [1, 2, 3, 4, 5, 6, 7, 8, 9]
y_data = [0, 1, 2, 1, 0, 3, 2, 1, 0]


fig = plt.figure(figsize=(12, 12))  # creates a figure object
plt.plot(x_data, y_data)  # line plot of x-y pairs
fig.savefig('./my_figure.pdf', format='pdf')  # save your figure
plt.show()  # show figure in a window
```

matplotlib

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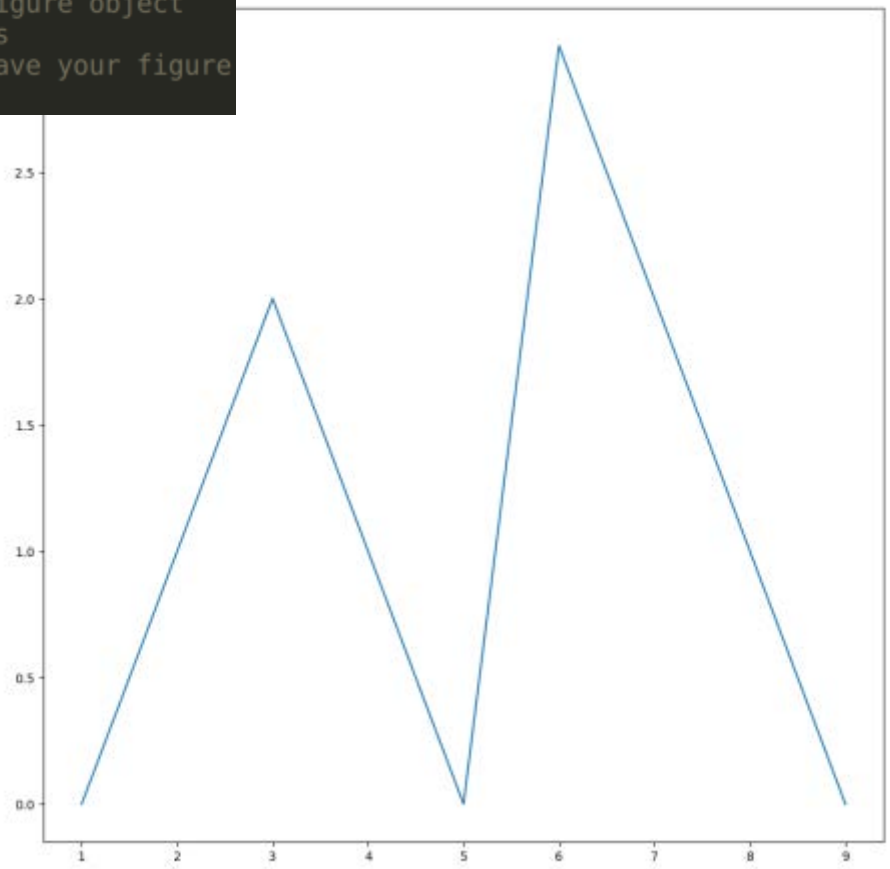
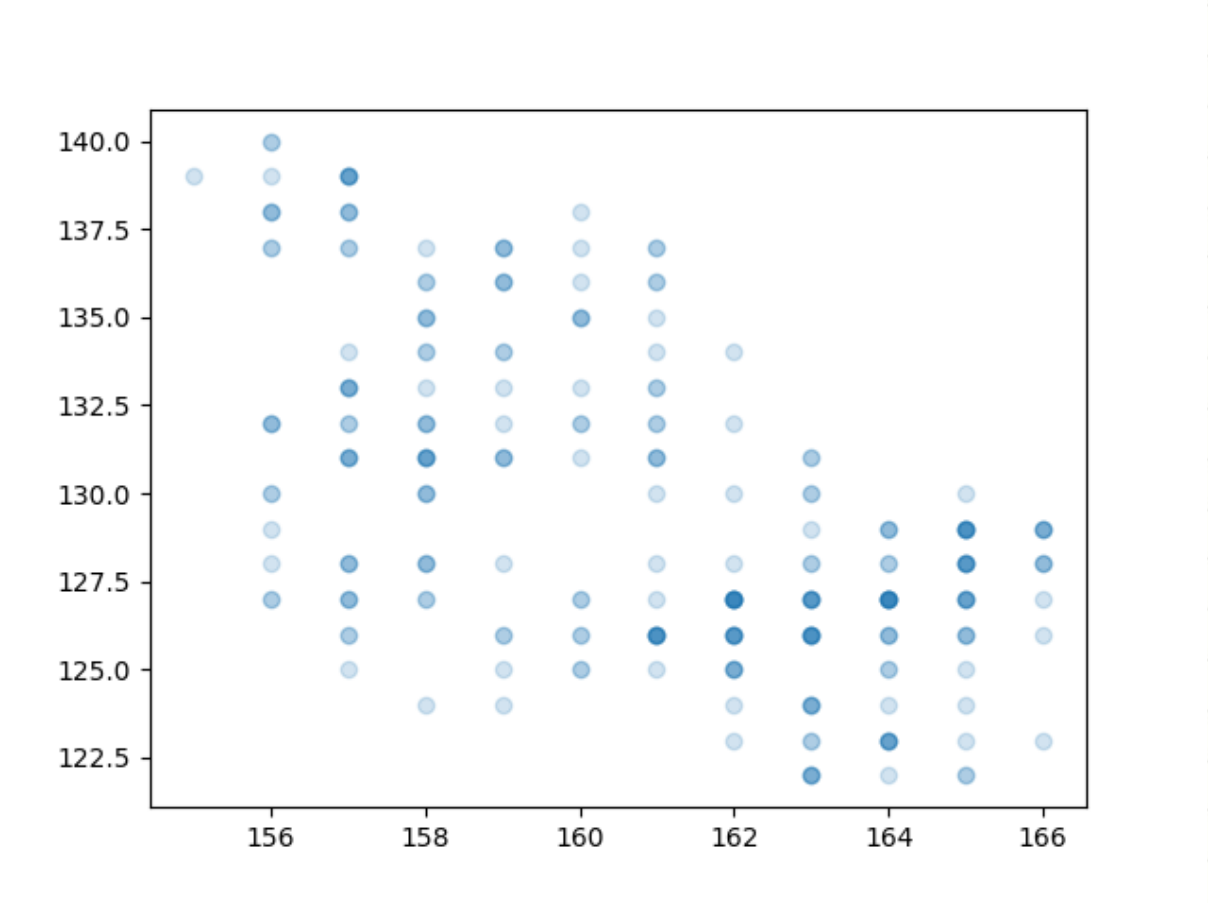
```

- pyplot comes with various plotting functions
- plot, scatter, hist, …
- Choose the figure type which suits your purpose



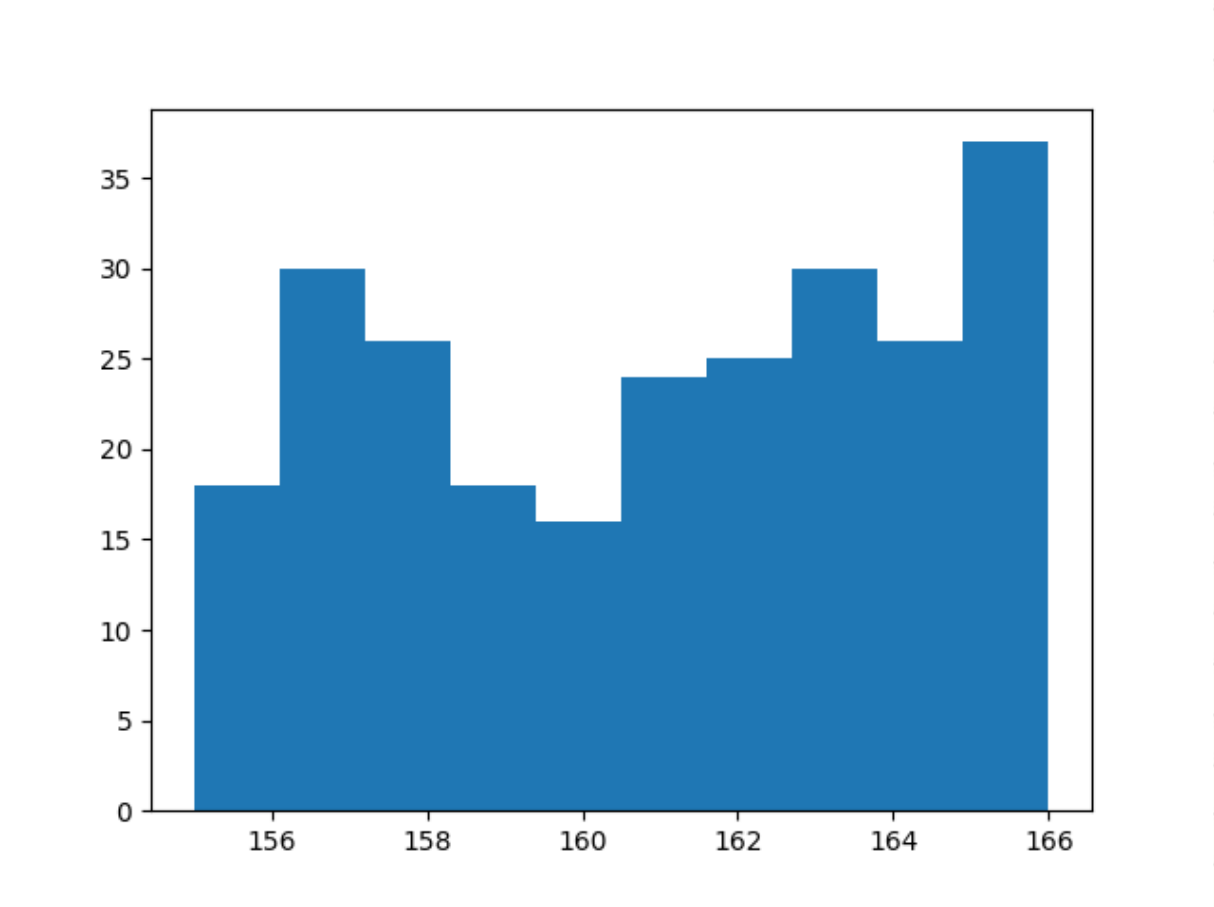
Examples

- A really bad example of a scatter plot



Examples

- Another bad example of a histogram



Examples

For a nice plot example, see plot_example.py
What can be modified?

- X and Y boundaries
- Title
- Axis labels
- Color
- Markersize
- Line width
- Almost anything you can think of.

HOMEWORK AND EXERCISE

Play around

Visualize history, map, etc.