AAE1001 - Introduction to Artificial Intelligence and Data Analytics in Aerospace and Aviation Engineering

Week 8 – Software Installation and Setup (Windows)

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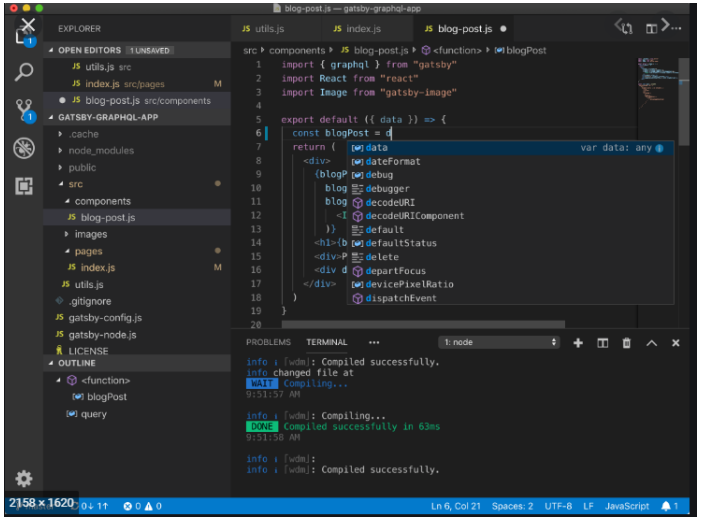
Software Installation and setup Guide

Install VS code in Windows 10/11

Step 1: Download the latest VS code
https://code.visualstudio.com/download

Tutorial Video:
https://www.youtube.com/watch?v=MZZw7VU9T4c&ab_channel=POLYUIPNL

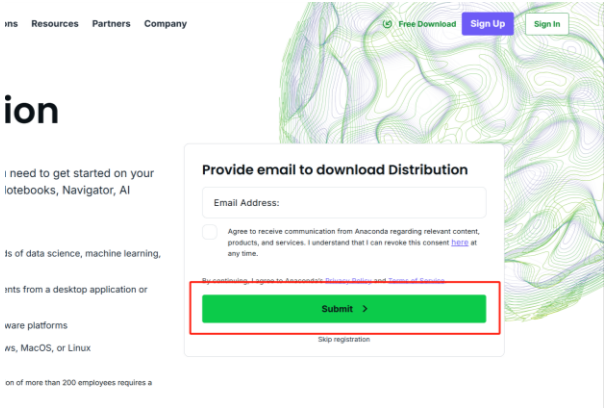
Step 2: Install latest VS code in Windows 10/11

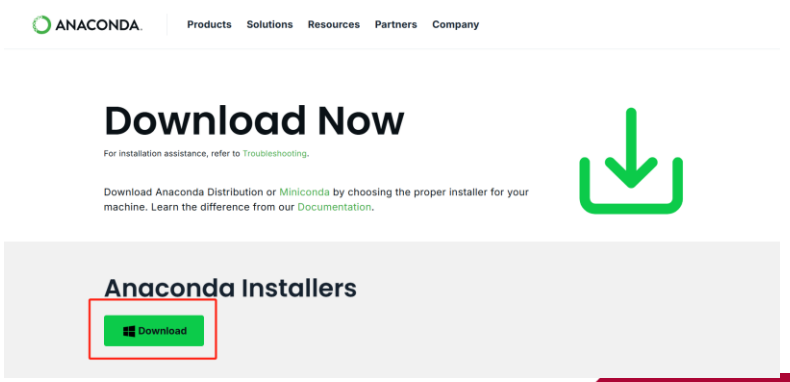


Visual Studio Code is a free source-code editor made by Microsoft for Windows, Linux and macOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git.

Install Anaconda for Python management

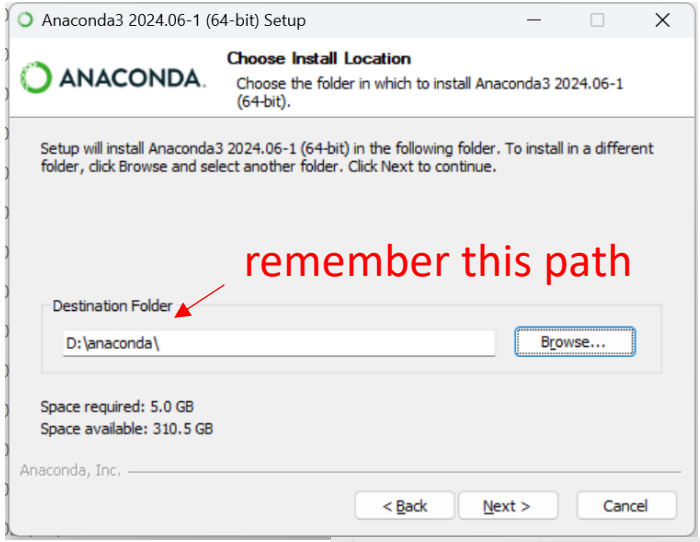
- https://www.anaconda.com/download
- **Anaconda** is an open source Python and R distribution designed for scientific computing, data science, machine learning, and big data analysis. It provides a complete set of tools and libraries to facilitate data processing and scientific computing. It can manage different Python versions.

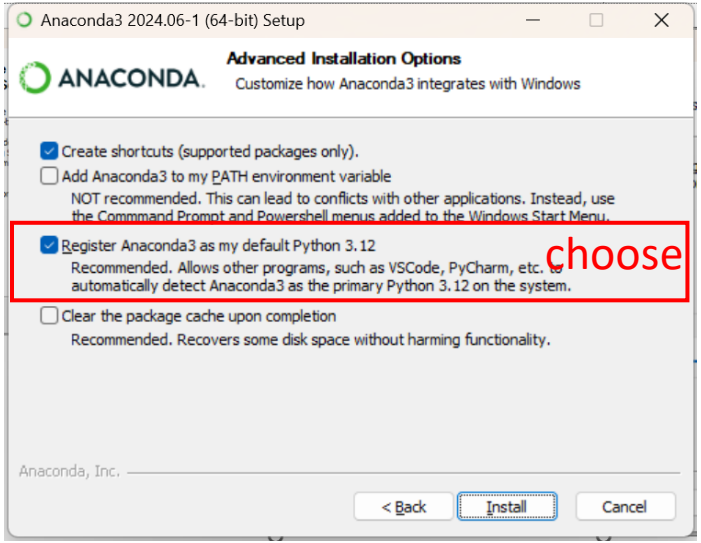


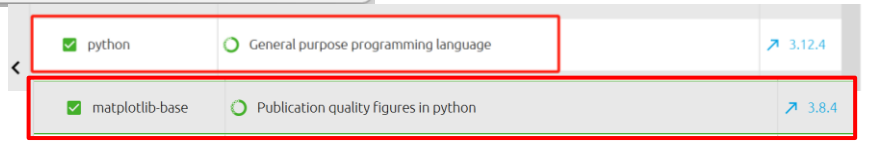


Install Anaconda for Python management

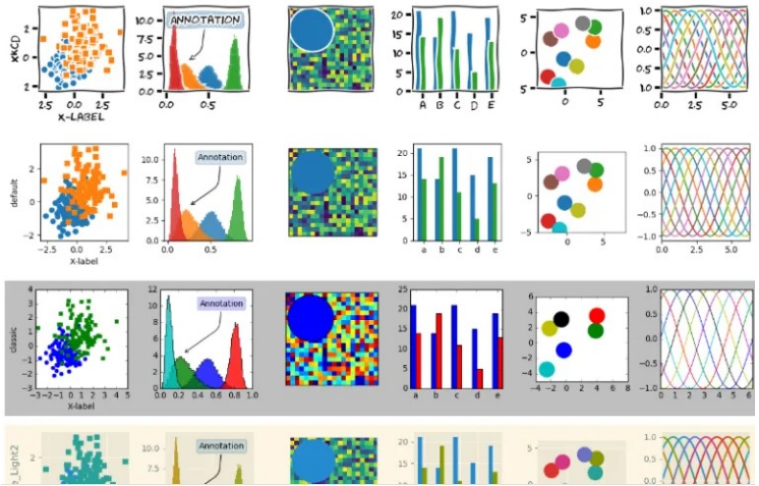
- The process of **Anaconda** installation can automatically install the newest **Python** and **Matplotlib**





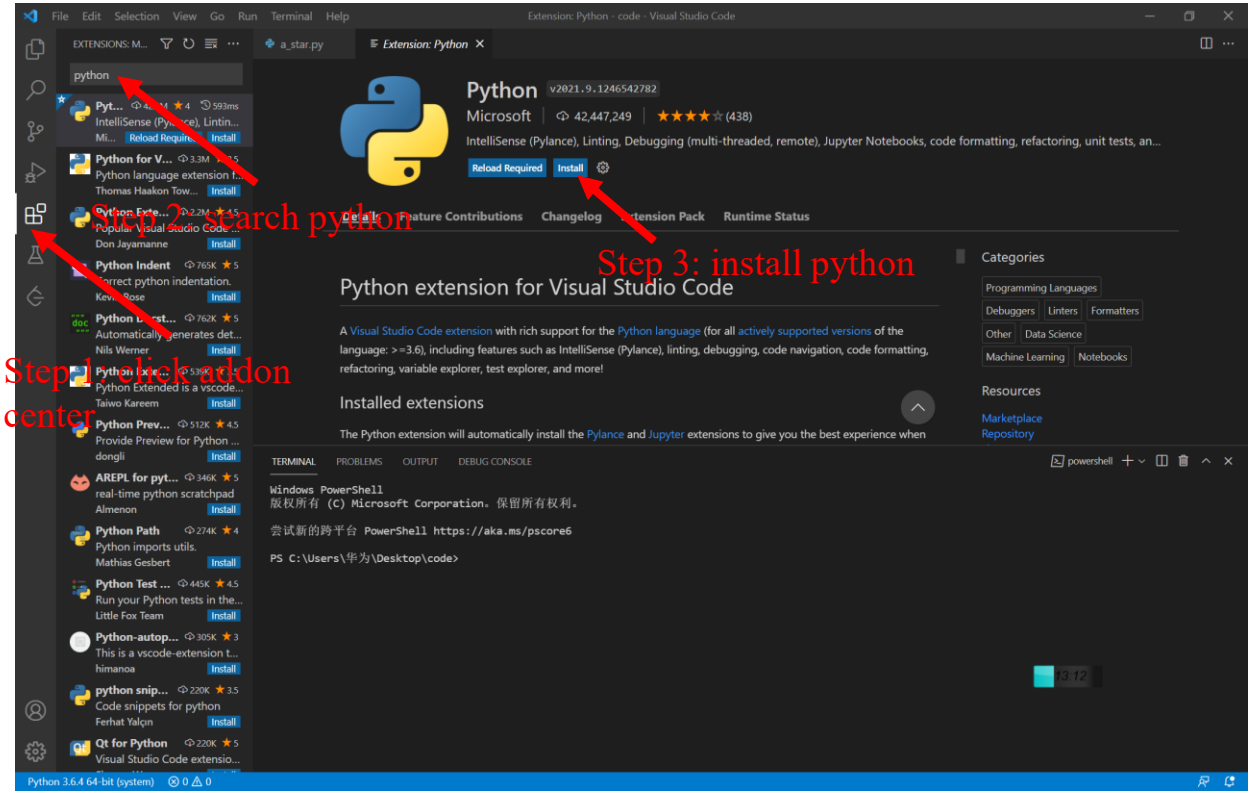


Matplotlib introduction

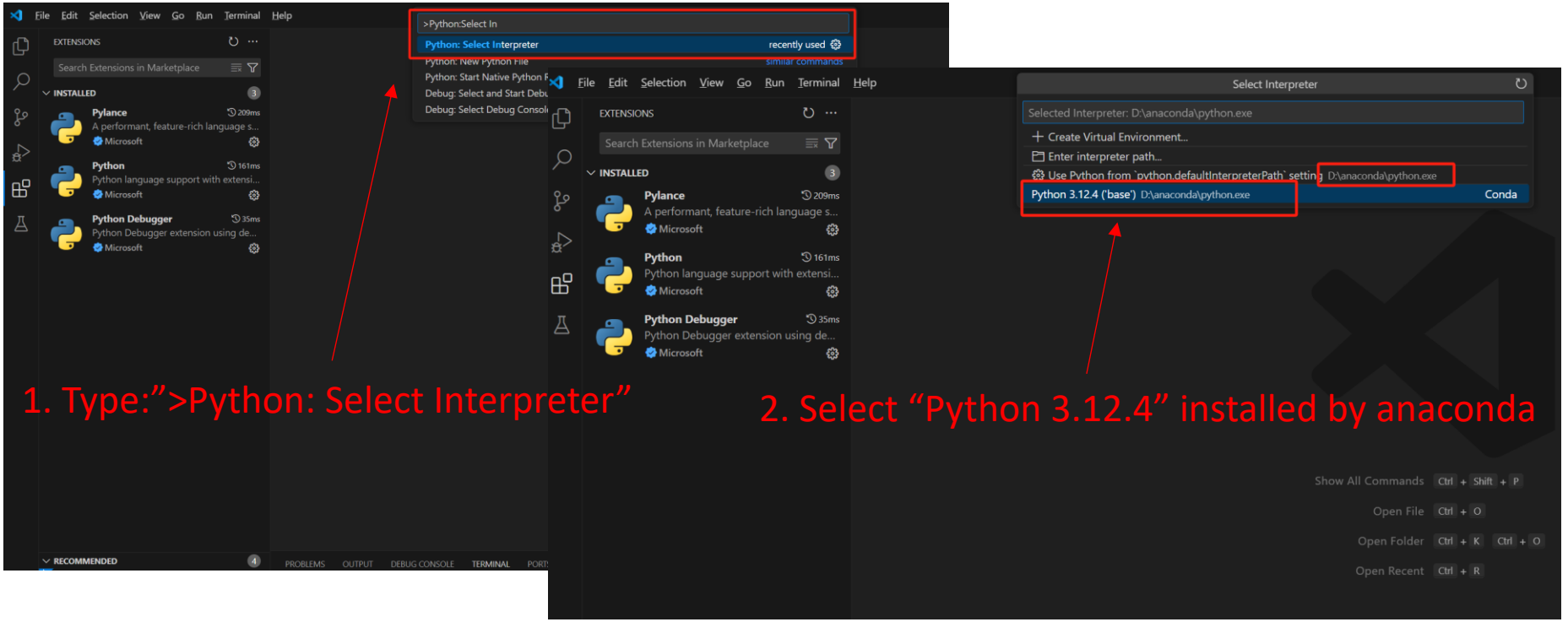


Matplotlib is a plotting library for the Python programming language and its numerical mathematics extension NumPy. It provides an object-oriented API for embedding plots into applications using general-purpose GUI toolkits like Tkinter, wxPython, Qt, or GTK+.

Install Python addon in VS code in Windows 10/11



VS code setting



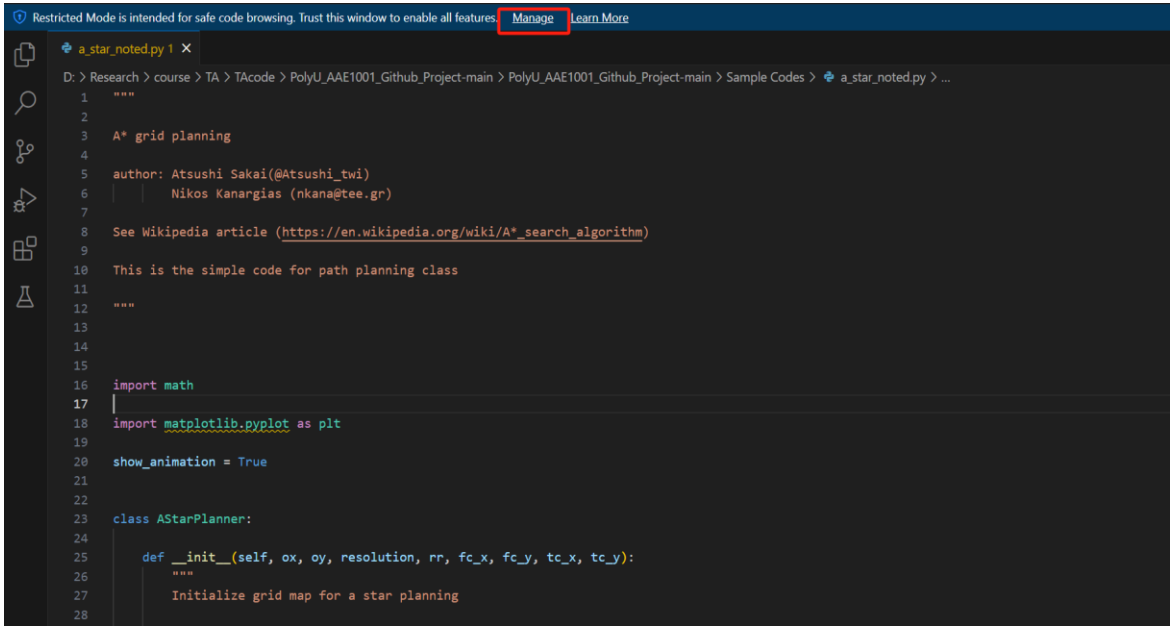
1. Type:">Python: Select Interpreter"

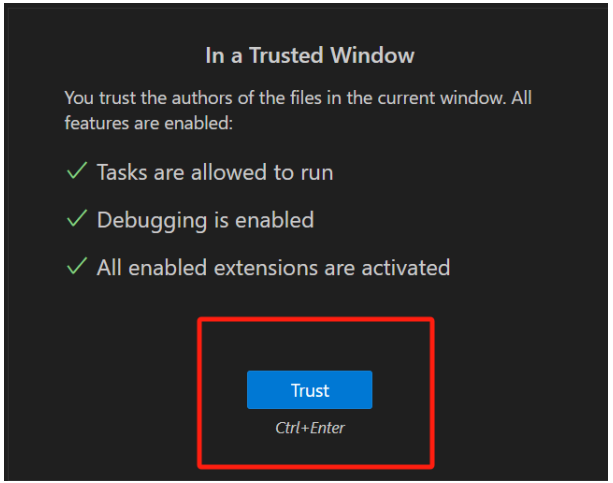
2. Select "Python 3.12.4" installed by anaconda

Run A Star in VS code

a_star_noted.py

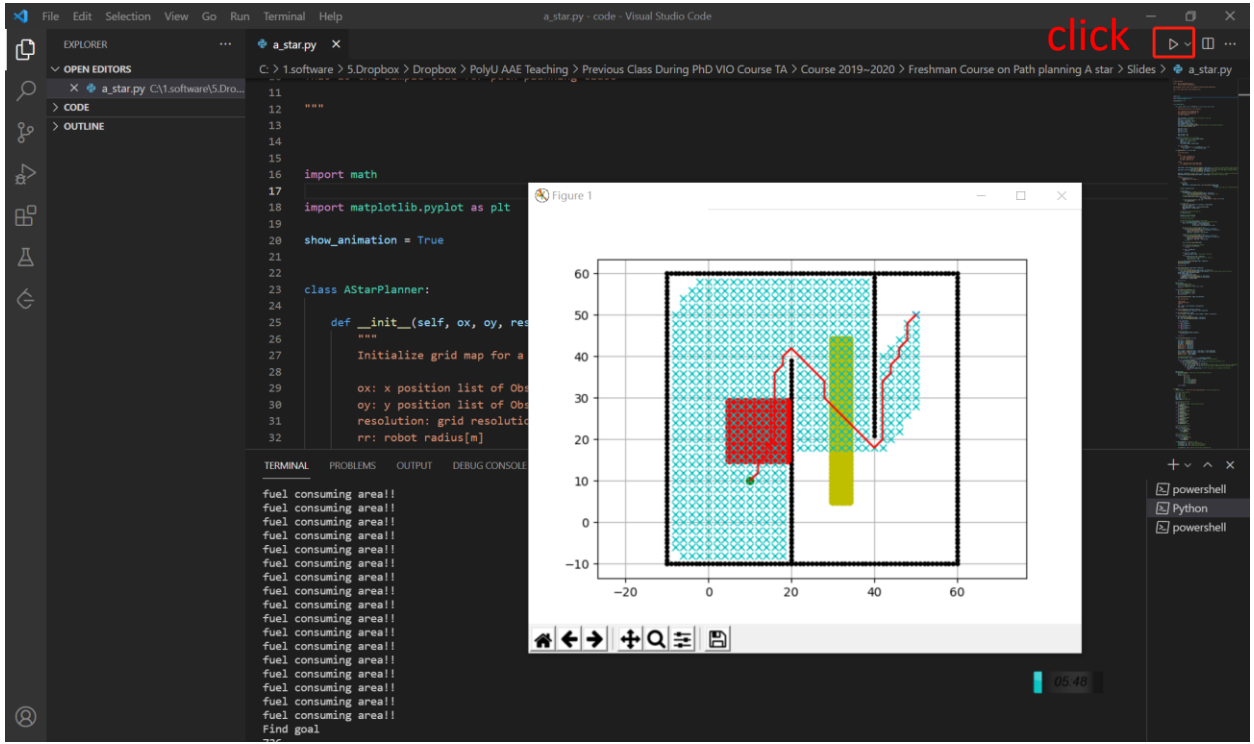
➢step 1: Open the code sample by VS code





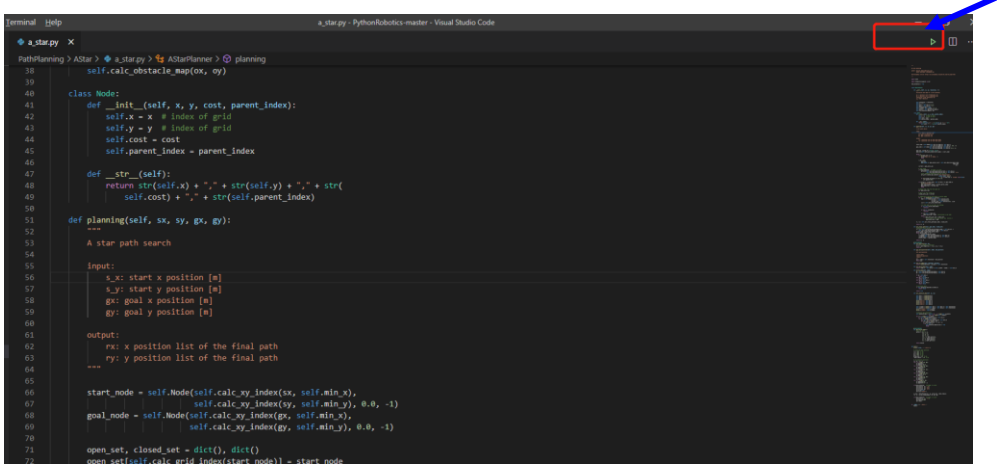
Run A Star in VS code

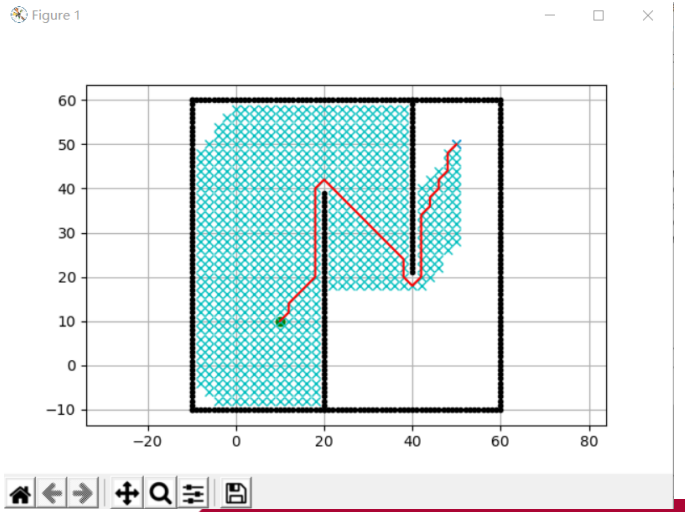
- step 2: Run the demo



Run A Star in VS code

Run the code





A* is a graph traversal and path search algorithm, which is often used in many fields of computer science due to its completeness, optimality, and optimal efficiency. One major practical drawback is its space complexity, as it stores all generated nodes in memory.

Troubleshot: Connect Github page via command in VS Code

- Input the command below to the terminal (change the blue to your info)
  - *git config --global user.name aaestudent*
  - *git config --global user.email aaestudent@gmail.com*