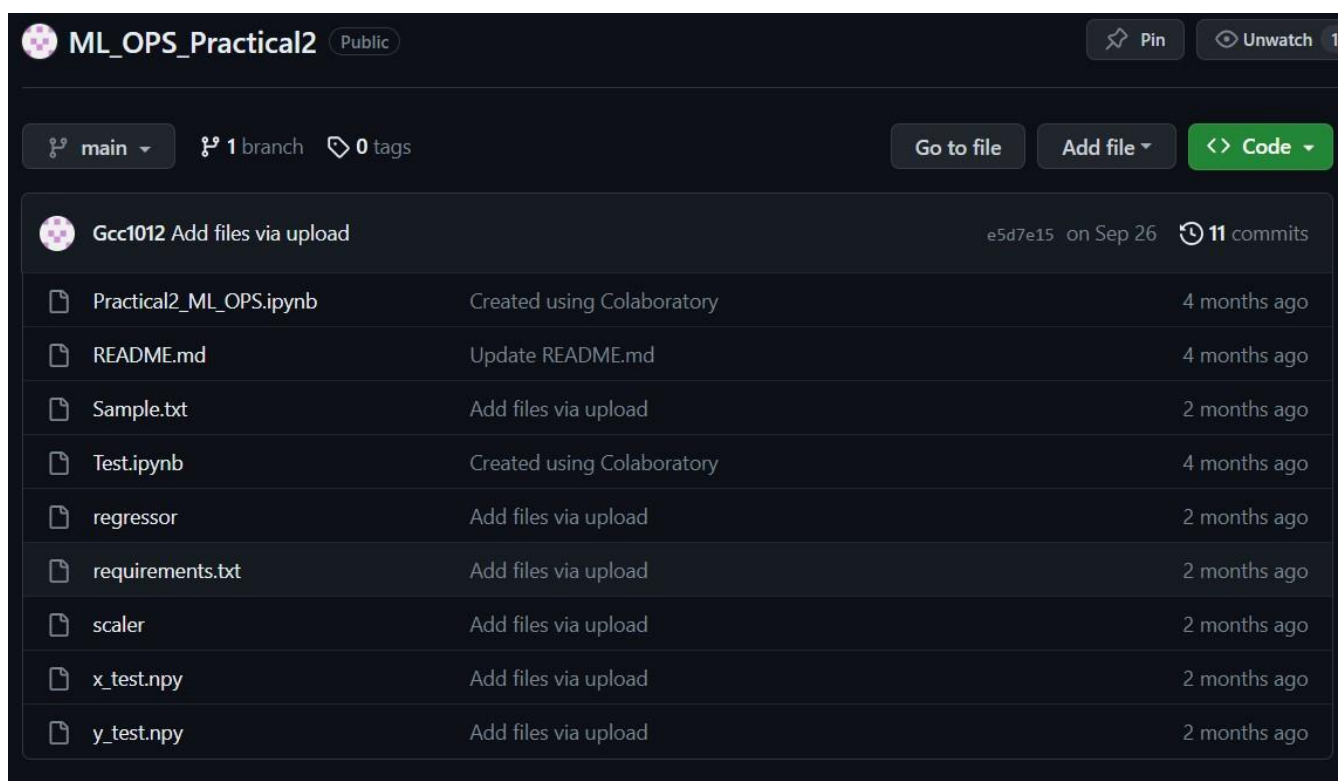


Practical-3

Generation of Reproducible and Interactive Machine Learning Project using BinderHub

Task 1:

Create the Github repository for the house rate prediction project created in practical 2.



Task 2:

Integrate your repository with the binder to make your project interactive. (Hint: refer to the following link for the steps: <https://mybinder.org/>)

Build and launch a repository

GitHub repository name or URL

GitHub

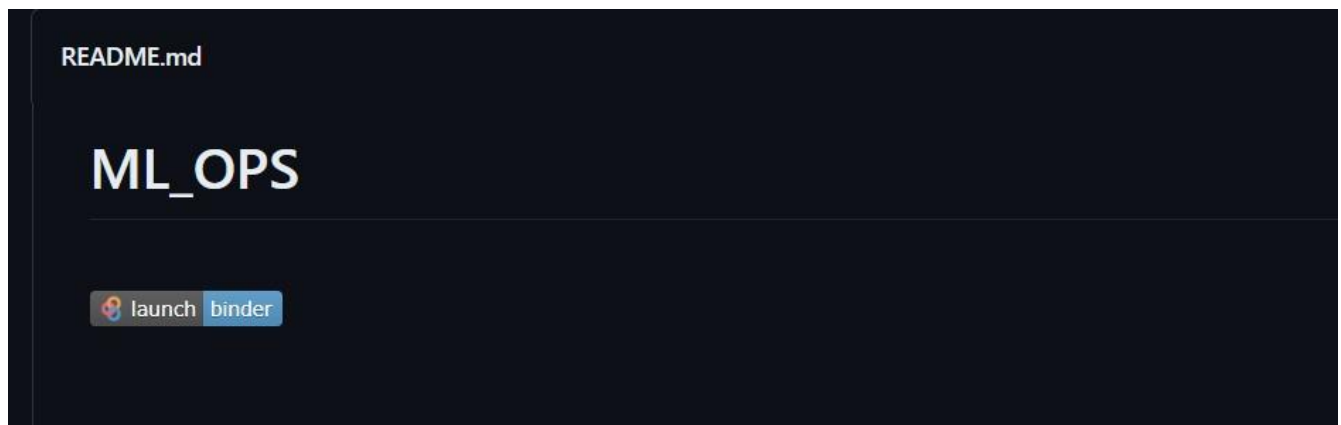
Git ref (branch, tag, or commit)

Path to a notebook file (optional) File

Copy the URL below and share your Binder with others:

Expand to see the text below, paste it into your README to show a binder badge:

Waiting Building Pushing



Introduction to BinderHub

BinderHub is an open-source platform designed to facilitate the creation, deployment, and sharing of interactive, reproducible computing environments, often used in educational and research settings, including lab manuals. Here's a brief description of BinderHub:

1. Interactive Computing Environments:

BinderHub allows you to create interactive computing environments using Jupyter notebooks. These environments can include code, text, visualizations, and other media, making it ideal for lab manuals where students or researchers need to perform computational tasks, simulations, or data analysis.

2. Reproducibility:

BinderHub promotes reproducibility by ensuring that users can easily recreate the same computing environment, including software dependencies, libraries, and data, as described in

the lab manual. This is critical for maintaining the integrity and reliability of experiments and analyses.

3. Cloud-Based Deployment:

BinderHub facilitates the deployment of these interactive environments in the cloud. Users can access the lab manual and its associated computing environment through a web browser without needing to install any software locally. This makes it accessible to a wider audience and reduces setup complexity.

4. Version Control:

BinderHub integrates with version control systems like Git and GitHub, allowing lab manual authors to track changes to their content and computing environments. This ensures that the lab manual can evolve over time while maintaining a record of its history.

5. Shareability:

Lab manuals created with BinderHub can be easily shared with others using a URL. This means that educators, researchers, or collaborators can distribute lab materials to students or colleagues without the need for complex setup instructions.

6. Customization:

BinderHub is highly customizable, allowing lab manual authors to specify the computing environment's configuration, software dependencies, and resources like CPU and memory. This ensures that the environment matches the specific needs of the lab manual.

7. BinderHub Architecture:

BinderHub consists of several components, including a web interface for launching environments, a scheduler for resource management, and underlying containerization technology (e.g., Docker) to encapsulate the environment. These components work together to provide a seamless interactive experience.

8. Open Source Community:

BinderHub is an open-source project with an active community of contributors and users. This means that it is continuously evolving, and users can benefit from improvements, bug fixes, and new features.

In summary, BinderHub is a powerful tool for creating interactive and reproducible lab manuals in a cloud-based environment. It simplifies the process of sharing and deploying computing environments, making it easier for educators and researchers to provide hands-on, reproducible learning experiences.