GitHub Copilot

Improvise ReactJs App using GitHub Copilot

accenture

Table of Contents

Use Case Detail: 3

Learning Objectives: 3

Know about Virtual Environment – GitHub Codespaces: 3

Pre-requisites: 3

Activity Overview: (Detailed Instructions are given in the below section) 4

Clean up activity: 15

Learning Outcome: 15

Use Case Detail:
Meet Mr. Eric, who has recently joined the XYZ project as a UI developer. He wishes to increase his productivity and speed up coding operations with ReactJS App.

Mr. John, Mr. Eric's manager, supplied the ReactJS frontend code source and asked to customize the website by adding the organization information and add animation effect to Website's icons. This will allow Eric to gain considerable experience constructing a ReactJs code to build a website.

Eric had a close timeline to finish his task and started exploring options to create code using templates or getting code generate assistances. During his study, he discovered GitHub Copilot AI (Artificial Intelligence) tool as a code assistant tool. Also, he discovered that GitHub Copilot is an AI pair programmer that generates suggestions based on context and code patterns. Let us help Eric to complete his task with GitHub Copilot.

Learning Objectives:
1. Experiences VS Code (Web) in GitHub Codespaces as a development environment.
2. Develop, Customize, and deploy own portfolio website.
3. Use GitHub Copilot as an assistant to create code, add comments, generate testcase, design web page and explain the code.
4. Build a ReactJs App which contains code generated by GitHub Copilot.

Know about Virtual Environment – GitHub Codespaces:
Codespaces are cloud-based development environments provided by GitHub. They allow developers to code, build, test, and debug their projects entirely in the cloud, removing the need for local development environments. With Codespaces, developers can access their projects from any device with an internet connection, collaborate with teammates in real-time, and seamlessly switch between different development environments.

GitHub Codespaces provide pre-configured development environments with all the necessary tools and dependencies already installed, enabling developers to get started quickly without the hassle of setting up their development environment manually. This is particularly useful for onboarding new team members, working on multiple projects, or accessing development environments from different devices.

Additionally, Codespaces integrate tightly with GitHub repositories, making it easy to spin up a development environment directly from a repository. This tight integration also ensures that changes made in a Codespace are automatically synced back to the GitHub repository, enabling seamless collaboration and version control.

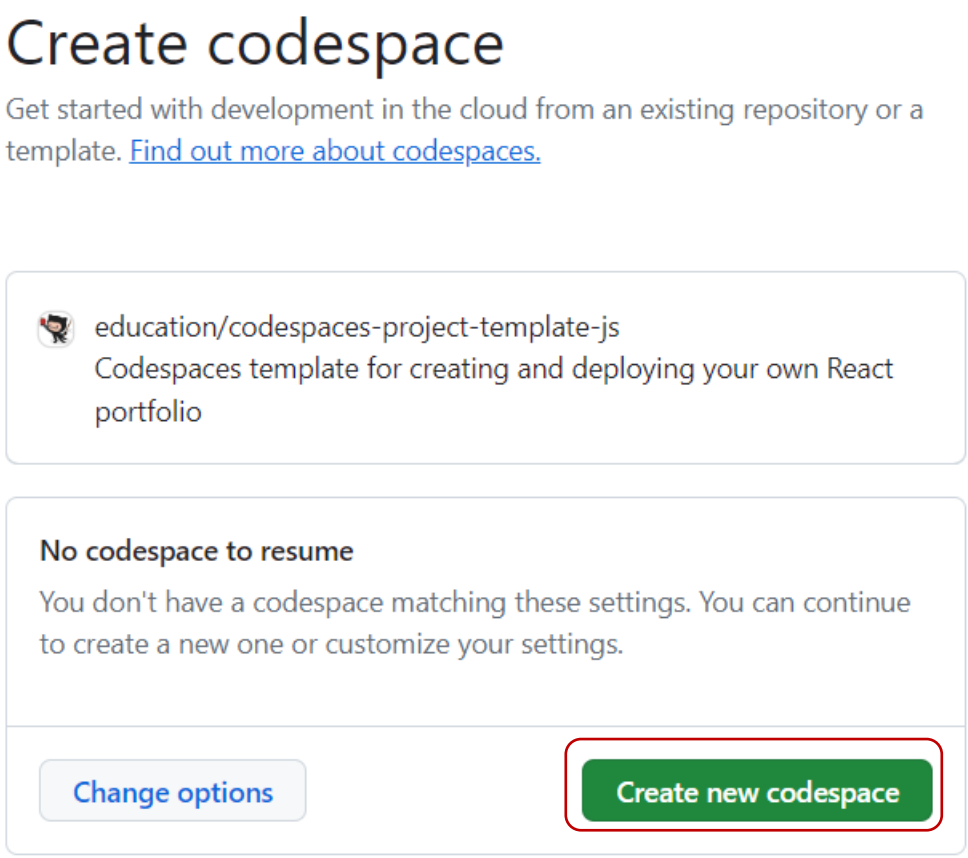
Overall, GitHub Codespaces streamline the development workflow by providing developers with a flexible, scalable, and collaborative development environment in the cloud.

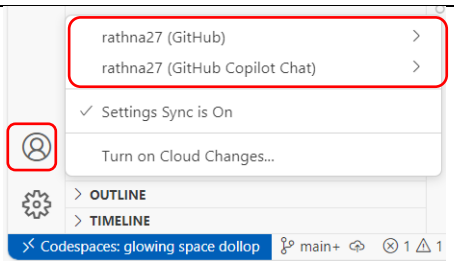
Pre-requisites:
1. Make sure that you have **high and stable internet bandwidth connectivity** to work on remote environments.
2. Recommended to use Google Chrome browser for seamless connectivity.
3. Signup in GitHub.com (https://github.com/) using **Accenture mailid** only and share username to get access of GitHub Copilot Subscription. (License Requestion Link or https://atcitrainingtracker.accenture.com/GitHubCopilotRequisitionTool/home), in case if you haven't done.
4. GitHub Copilot subscription invite is accepted and joined in this organization **GitHubCopilotTDLC.**
5. Sign-in to GitHub using this link (https://github.com/login) using **Accenture mailid**. If you have already signed in using your personal email address or any other email address sign out first and then sign in using email address where GitHub Copilot license is activated.

Activity Overview: (Detailed Instructions are given in the below section)

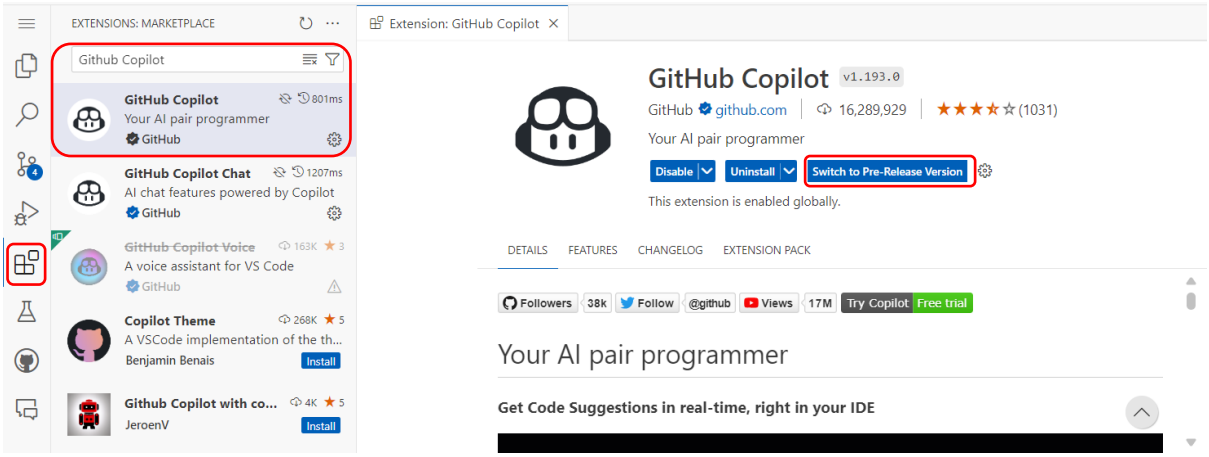
1. As a developer, you are expected to customize the web app.
   - Access src/App.jsx file and update the siteProps with your information.
2. Ask GitHub Copilot to explain the siteProps values.
3. Add animation to the social media icons.
   - Access src/style.css file and ask GitHub Copilot's help to animate the icons.
4. Identify and fix the issues present in your code.
5. Take GitHub Copilot guidance's to run your application.

Instructions:

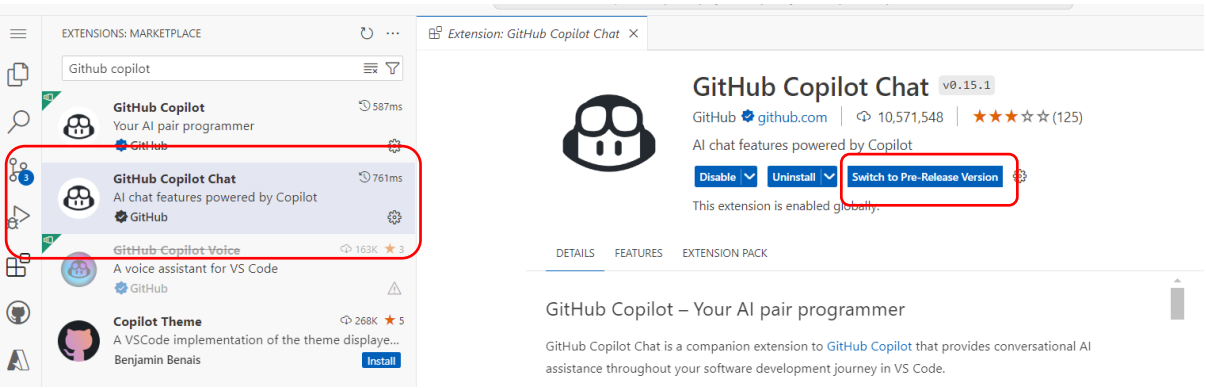
1	Open the Codespace with the preconfigured environment in your browser with this link, or copy and paste this link in the browser address bar **https://github.com/codespaces/new?hide_repo_select=true&ref=main&repo=526682619** **Note**: This codespace environment should be used only for training purpose. It is not for production usage. Refrain uploading / adding Accenture / Client specific data in this codespace Click on **"Create new Codespace"**. It will take 2 to 5 minutes for creating & setting up your Codespace.  Ensure your Codespace environment is logged in with your GitHub Co-pilot license enabled username by clicking on profile icon at the bottom left in the GitHub Codespace environment.



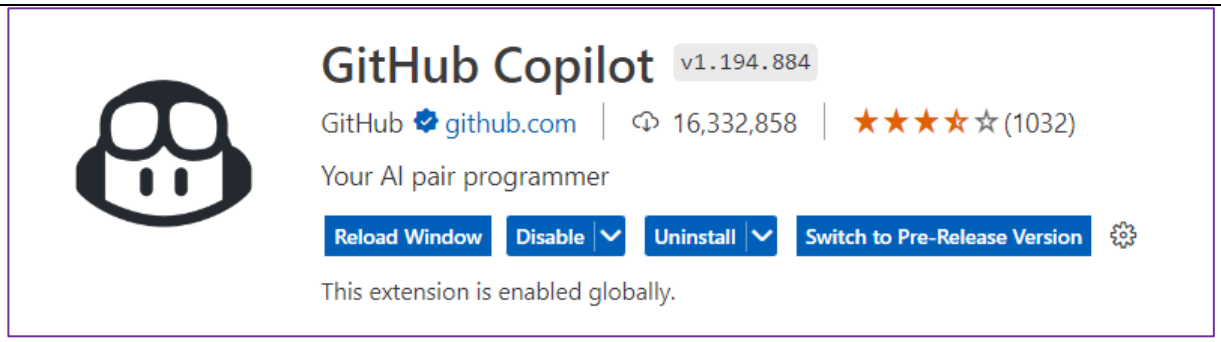
Switch to Pre-release version of GitHub Copilot extension by clicking on **Extensions -> GitHub Copilot -> select "Switch to Pre-Release Version."**



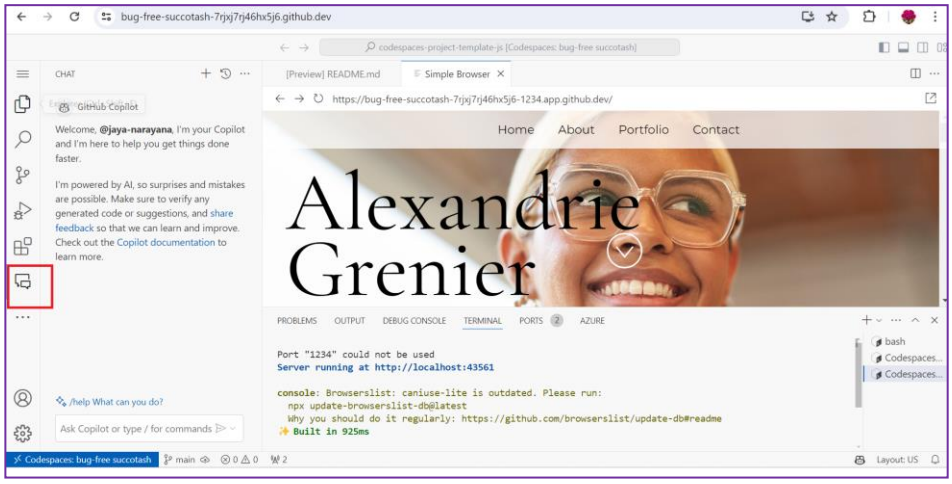
Switch to Pre-release version of GitHub Copilot Chat extension by clicking on **Extensions -> GitHub Copilot Chat -> select "Switch to Pre-Release Version."**



Click on Reload Window and the Codespaces will be reloaded.



Now let's explore how to access **"GitHub Copilot"**. You can access "**GitHub Copilot Chat"** by clicking on chat option present on the left side panel.

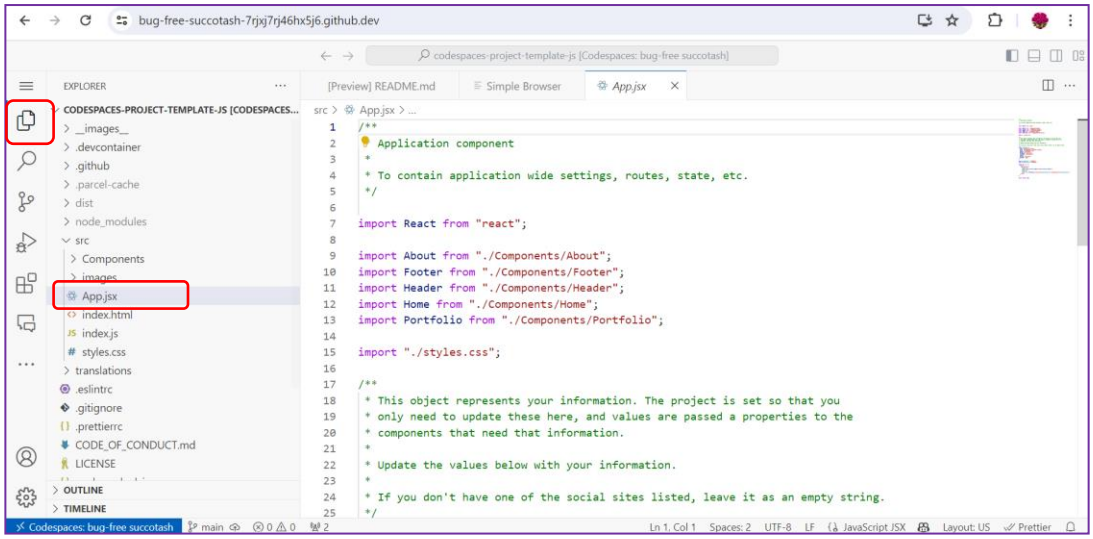


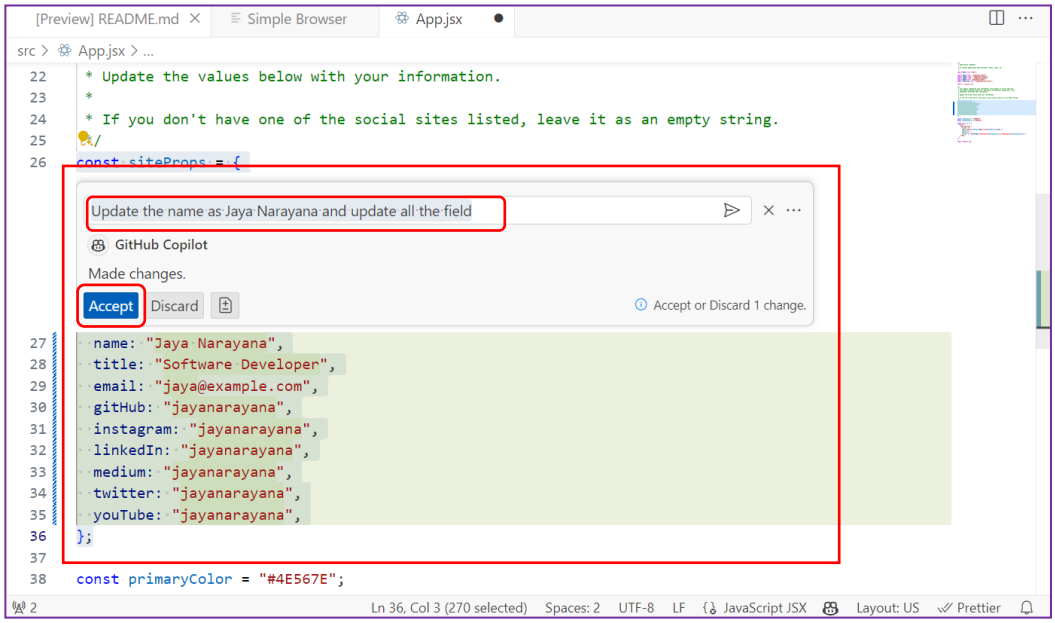
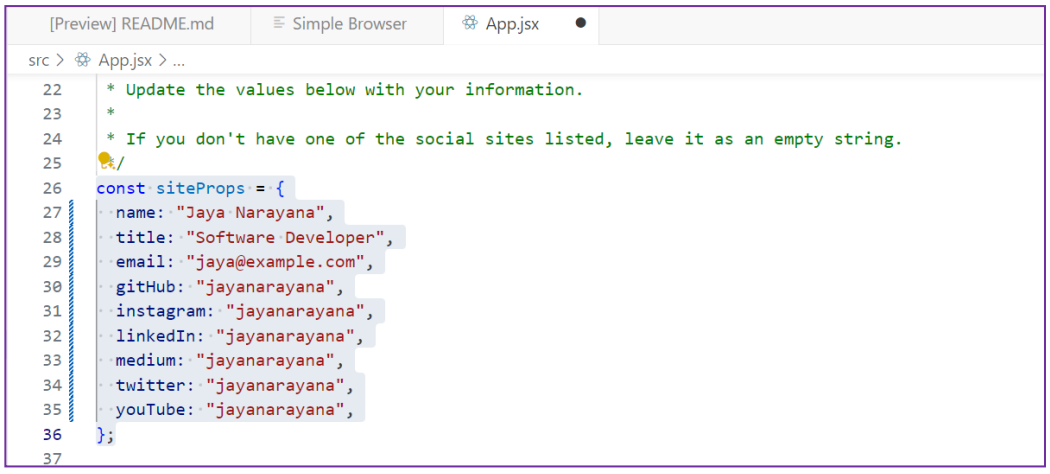
Case1

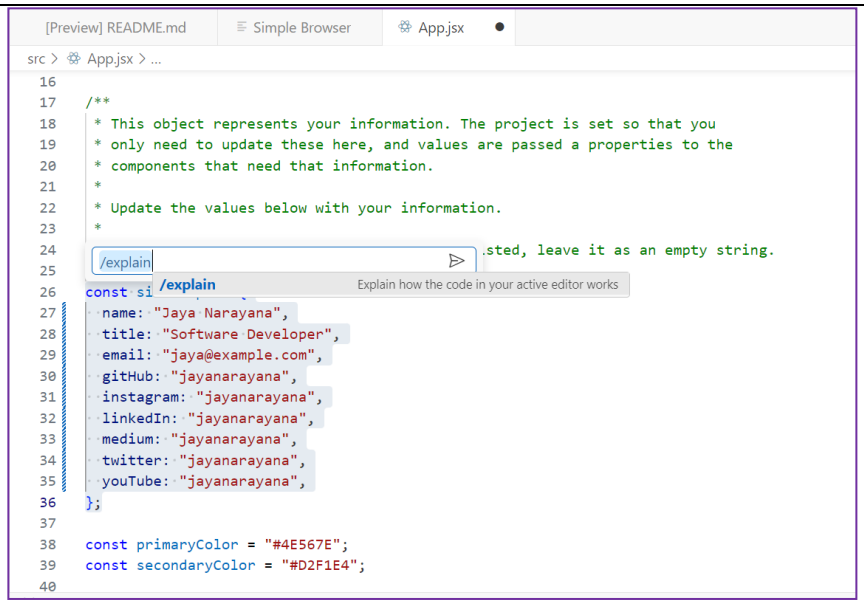
As a developer, you are expected to customize the web app.

- Access src/App.jsx file and update the siteProps with your information.

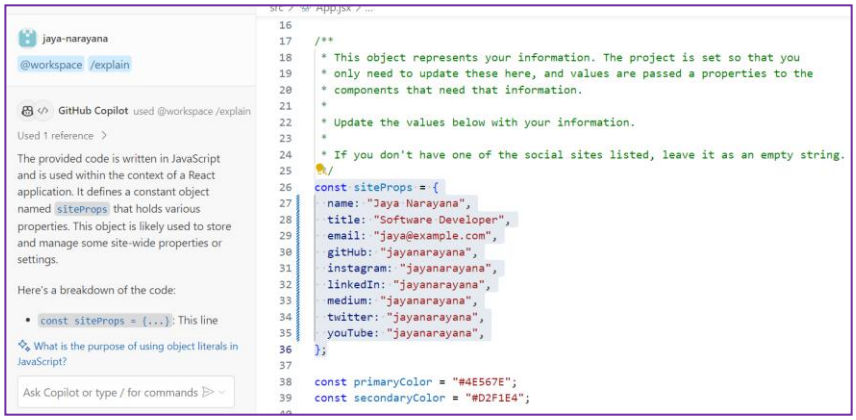
Click on Explorer -> **CODESPACES-PROJECT-TEMPLATE-JS-> src -> App.jsx**



	From line 26, select the complete siteProps block. Press Ctrl + I and instruct GitHub Copilot to modify the values with your name as shown below. Review the suggested changes and **accept** the change. Press Ctrl+S to save the file.  After accepting, you can see the updated code as shown below. 
Case 2	Ask GitHub Copilot to explain the siteProps values. We need to implement this case in **App.jsx** by selecting the complete siteProps block. Press Ctrl + I and instruct GitHub Copilot to explain the code by typing /explain. Press CTRL + S to save the file.

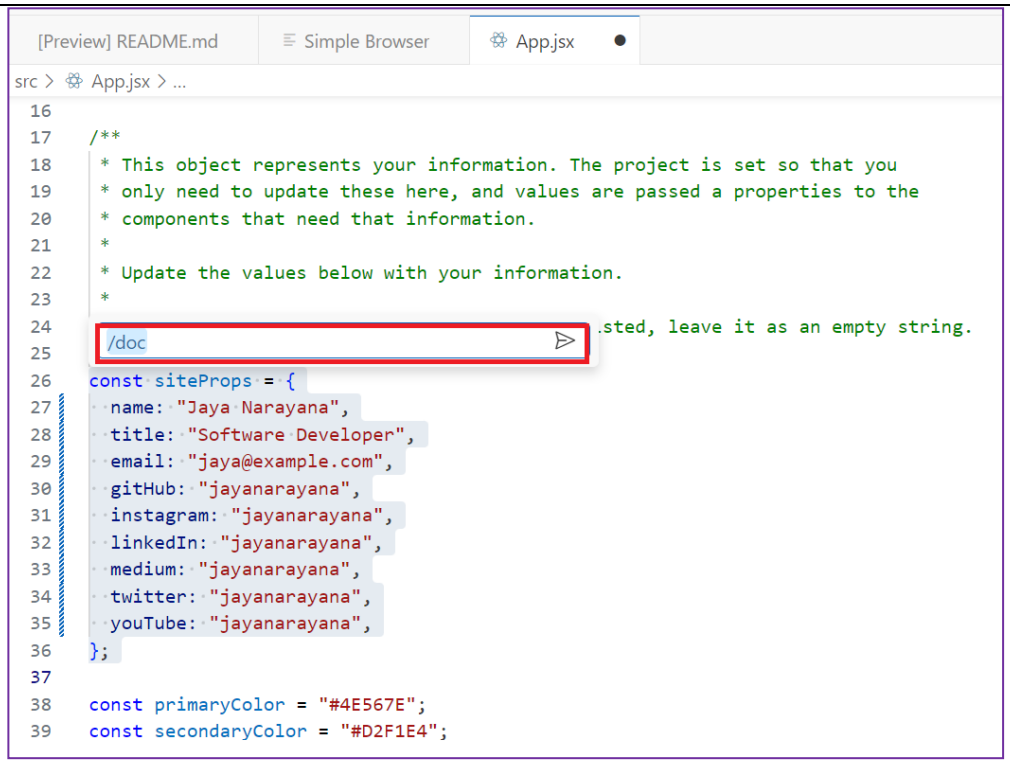


You can observe GitHub Copilot chat window launched in the left panel and you can see the detail description about the code.

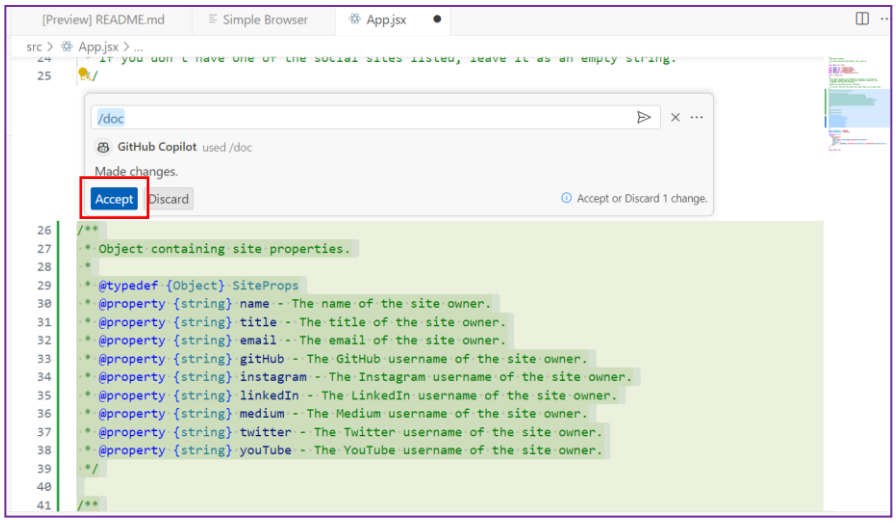


Select the complete siteProps block again, Press Ctrl + I and instruct GitHub Copilot to add comments in the code by typing /doc

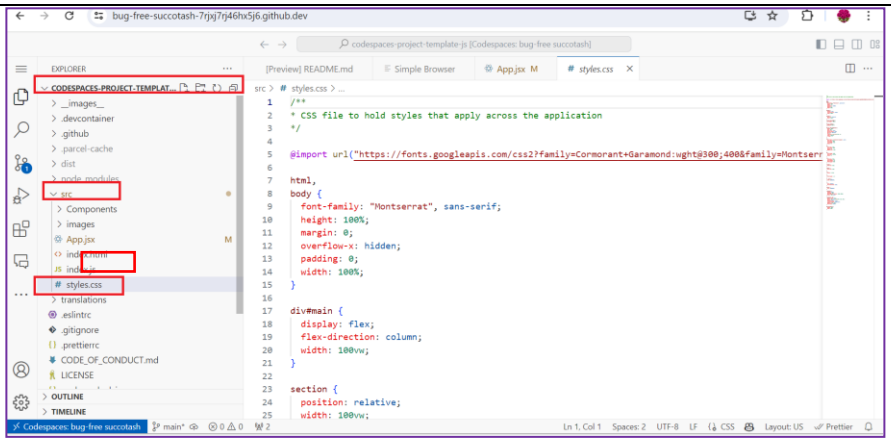
Ex:" /doc"



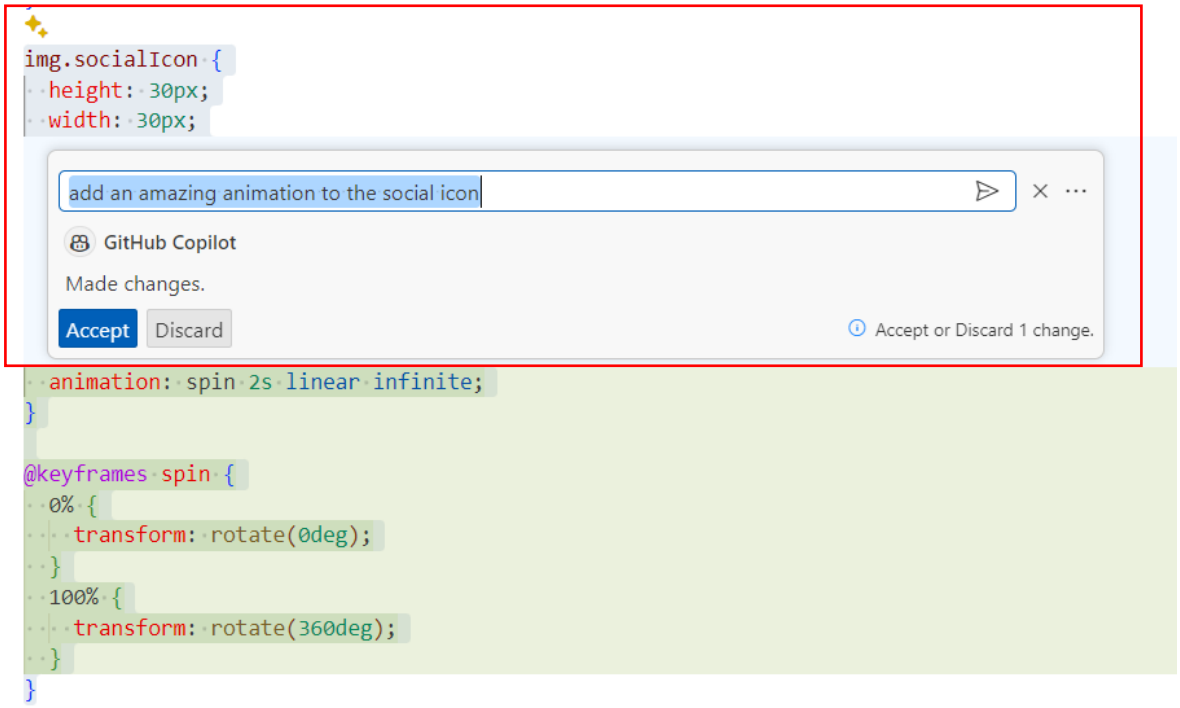
Review the suggested changes and accept the changes. Press Ctrl+S to save the file.



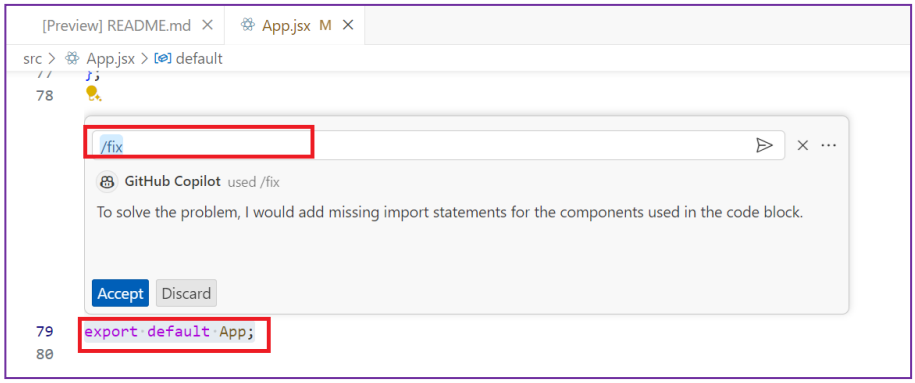
Case 3	Add animation to the social media icons. ➢ Access src/style.css file and ask GitHub Copilot's help to animate the icons. For completing this case, we need to navigate to "src/style.css". **Click on Explorer -> CODESPACES-PROJECT-TEMPLATE-JS-> src -> style.css**

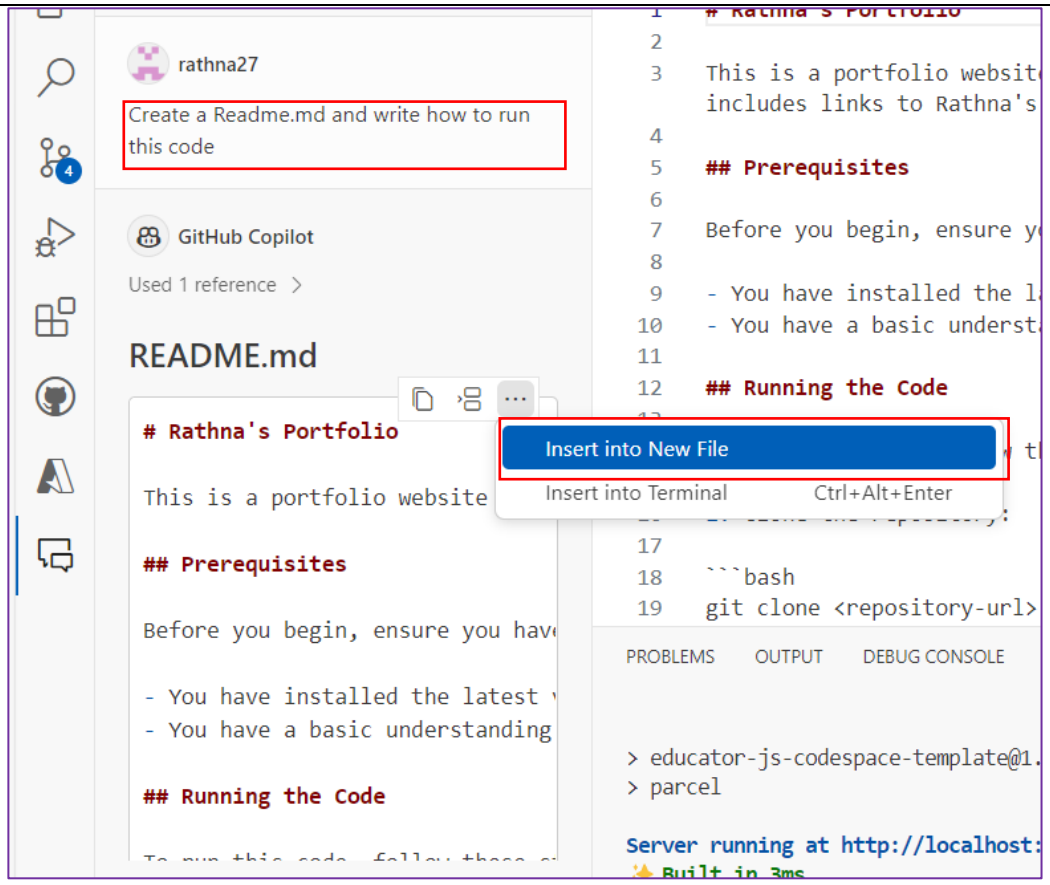


Navigate to the end of file and select the last block (`img.socialIcon`), Press Ctrl + I and instruct GitHub Copilot to add effects to the social icon by typing add an amazing animation to the social icon
Review the generated code and accept the changes. Press CTRL + S to save the changes.

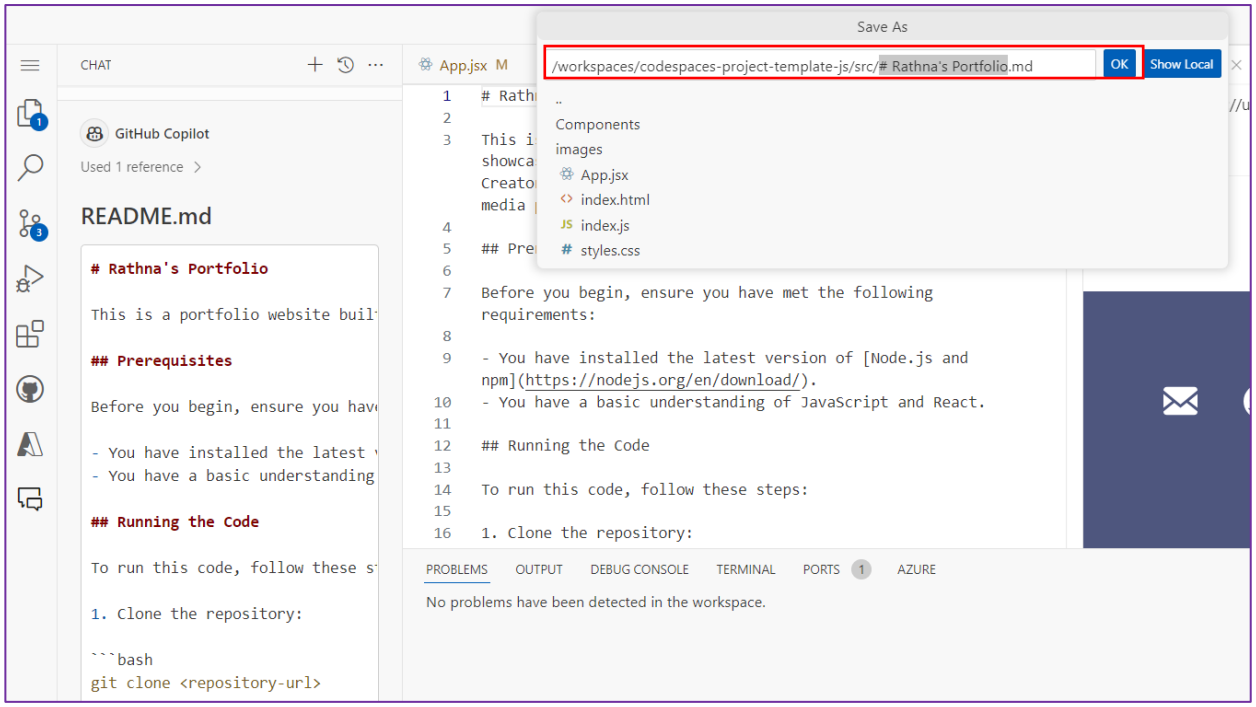


Case 4	Fix the warning messages using GitHub Copilot features. To implement this case, navigate to App.jsx. Approx. line 71 below code, select the code and press Ctrl + I to instruct GitHub Copilot to fix the bug using /fix. Code to be selected: export default App;

	Ex:"/fix" and accept the changes. **NOTE:** GitHub Copilot while providing fixes for issues, generates multiple suggestions. Review the generated suggestions and accept the appropriate one. 
Case 5	Take GitHub Copilot guidance's to run your application and document the same in Readme. For implementing this case, navigate to **"App.jsx"** and access GitHub Copilot Chat by clicking on Chat icon exists in left side panel. Type **Create a Readme.md and write how to run this code** in Copilot Chat. Review the suggestion and insert the generated content into new file using the option as highlighted below. **Note**: If "Insert into New File" option is not visible, then you can create a new README.md file manually and copy paste the content generated in the GitHub Copilot chat window.



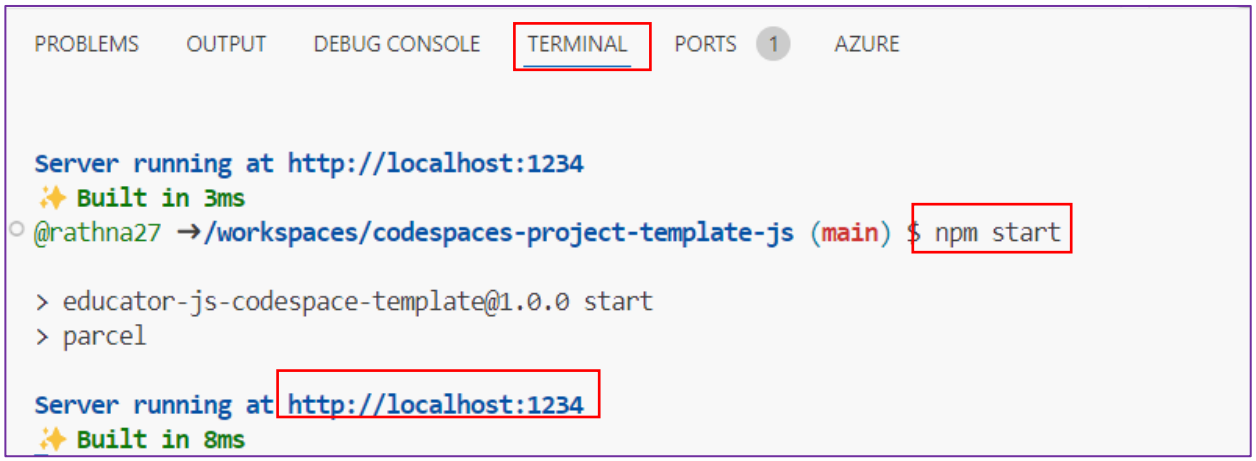
Once the new file is generated with the instructions, save file by pressing CRTL+S and type README.md as filename. (Highlighted below)



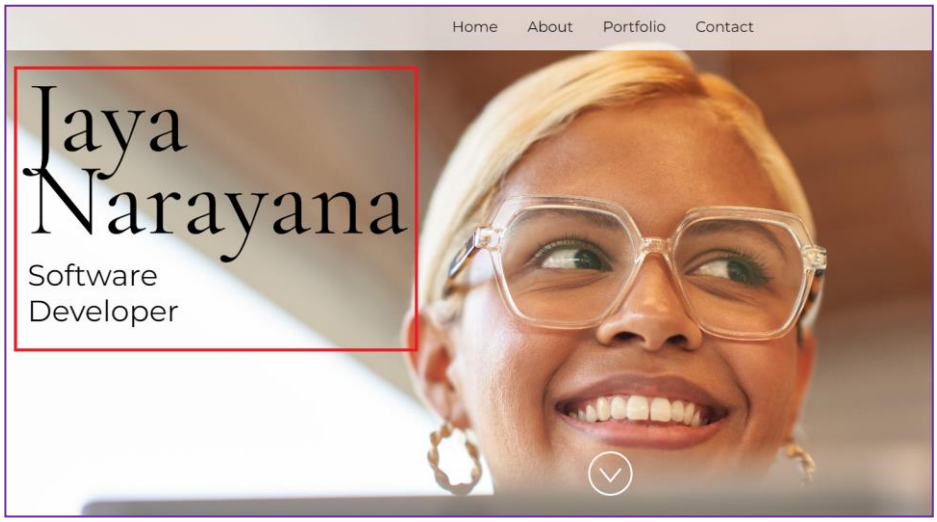
Now open the terminal in Codespace

Press Ctrl + C and execute the application using below command generated by GitHub Copilot in the chat window.

```
npm start
```



Now you can access application in the Browser by following the link enabled in terminal window **OR** Follow Link enabled in port window under Forwarded Address column.



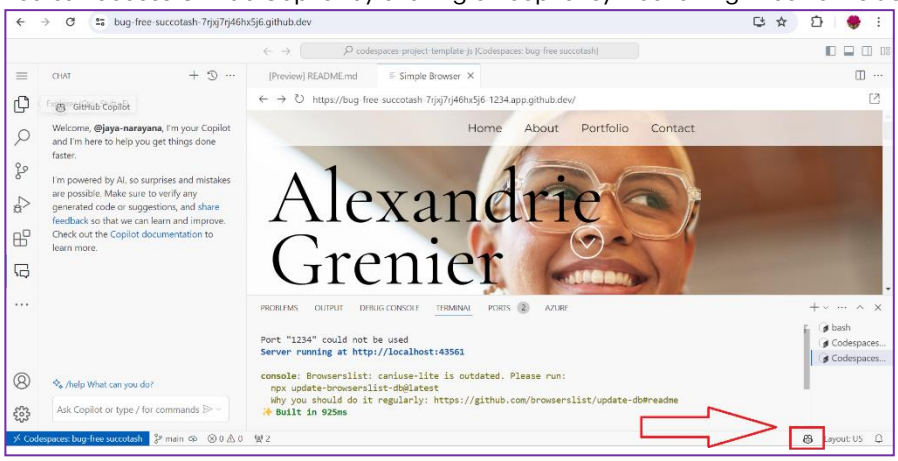
Instruction to submit in TDLC portal.

To get credit of completion of this activity, you must take screenshot of above output page from your Codespaces environment (**Your name must be visible)** and submit it in the Activity submission option enabled in TDLC university portal.

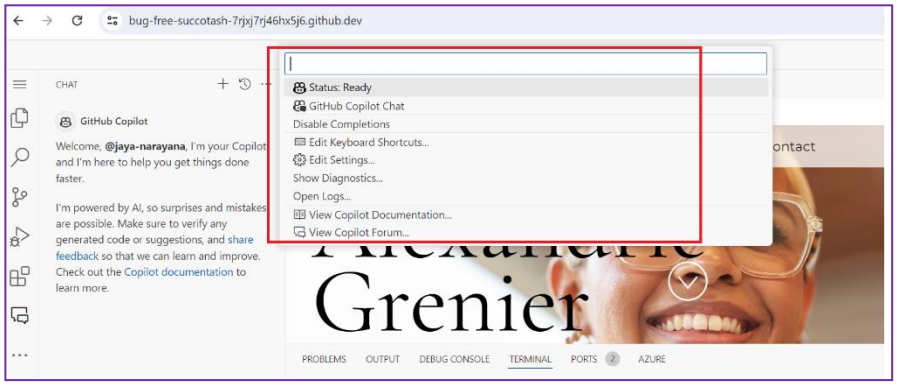
Now scroll down and verify animation effects of social icons. The below mentioned screenshot is not required for submission. It is only for your verification purpose.

Appendix

You can access GitHub Copilot by clicking on copilot symbol on right-bottom side of the IDE.



7



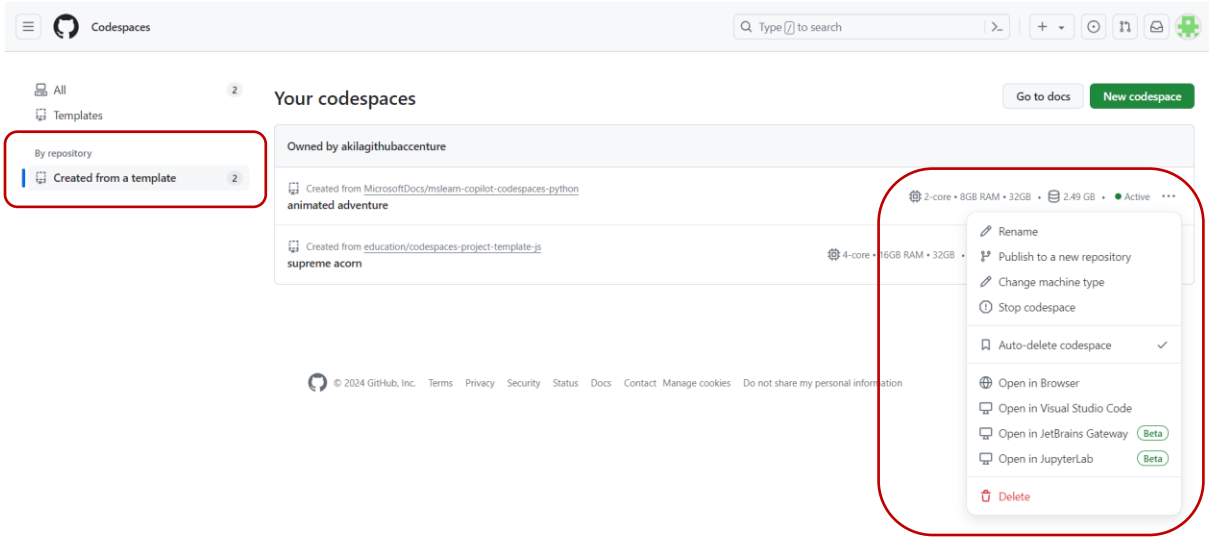
NOTE: If you want to edit Keyboard Shortcuts or any other settings related to GitHub Copilot, you can do it through second option.

Few Shortcuts:

- Ctrl + Enter key: Show combined suggestions.
- Alt +] key: See next suggestion
- Alt + [key: See previous suggestion.
- Ctrl + I key: Suggest Terminal Command
- @workspace: Copilot will use the entire project as context

Clean up activity:
Once the above activity is completed successfully and necessary screenshot taken from the output page, you need to delete the Codespaces environment created in your account. To delete Codespaces

1. visit https://github.com/codespaces URL and Click on **Created from a template** option present in the left side pane.
2. Click on **show more actions for codespace** (three dots at the end of codespace environment) and select **Delete** to clean up the environment.



Learning Outcome:
By the end of this activity, Eric can generate prompts and get code assistant for different scenarios from GitHub Copilot. He can use GitHub Copilot to improve his existing project, increase his productivity, and speed up coding activities in Reactjs.