

ALBANY STATE UNIVERSITY, GA

# WEB DESIGN AND DEVELOPMENT USING A

## CHAPTER ONE -- INSTALLATION

BY

Wanjun Hu

Department Of Math, Cs & Physics

Albany State University

504 College Dr, Albany Ga

Wanjun.Hu@asurams.edu

<https://www.backupspirit.com/camp>

## Table of Contents

Section 1.1 Install GIT and Visual Studio for Coding -----	1
Section 1.2 Using Github for backup your work -----	3
Section 1.3 Clone a repository form Github to your computer -----	7
Section 1.4 Add AI extension to Visual Studio for Coding -----	12
Section 1.5 Using the AI chatbot to develop webpage-----	15

# CHAPTER ONE — SETUP YOUR COMPUTER

We will install several software packages in order to develop webpage using AI. We will first install Visual Studio for Coding (VSC) and GIT. Our camp activities will be programmed inside VSC. After installing VSC, we will need to create two accounts, one with Github and the other with OpenAI. The good news is that both accounts can be done by having a Gmail account. Please follow the steps below

## Section 1.1. Install GIT and Visual Studio for Coding

The combination of GIT and Visual Studio for Coding becomes the dominating platform for software development. Please follow the steps below for how to install them. If your computer has installed them already, you can skip this section.

### Step 1: Install GIT

GIT stands for Global Information Tracker. It is one of the great inventions in software development. It was invented by the same person, Linus Torvalds, who also invented the Linux operating system. The major functionality of GIT is to monitor collaboration and contribution all team members for a software development. As a professional software engineer, one must get familiar with GIT.

Github is a hub that host millions of software packages. Many refer to those packages for job related task, or for research (such as me). To become a professional in computer science in general, you should have a Github account. Employers nowadays would like to see repositories hosted in your Github account. We will show how to setup a Github account later.

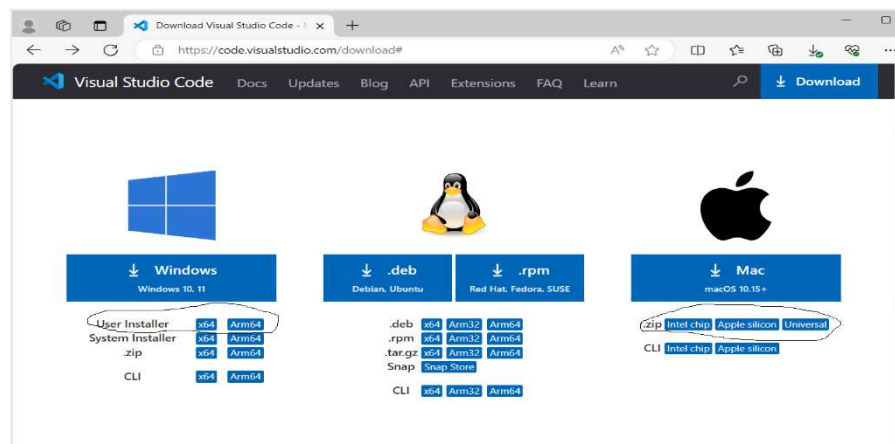
Please click <https://git-scm.com/downloads> to download the GIT.



## Step 2: Install Visual Studio for Coding

If you are using Windows operating system, please click this link  
<https://code.visualstudio.com/docs/?dv=win64user&build=insiders>

If you have a MacBook, please use this link  
<https://code.visualstudio.com/download#> and choose Mac (zip file)



## Section 1.2 Using Github For Backup Your Work

You may not use the same computer to do your work. You will need a backup so that you can continue the work where ever you go. In addition, you may need additional services such as sharing your work with others, and show off what you have done when applying for jobs. The Github repository is what you need. Please follow the steps to create a blank repository in Github.

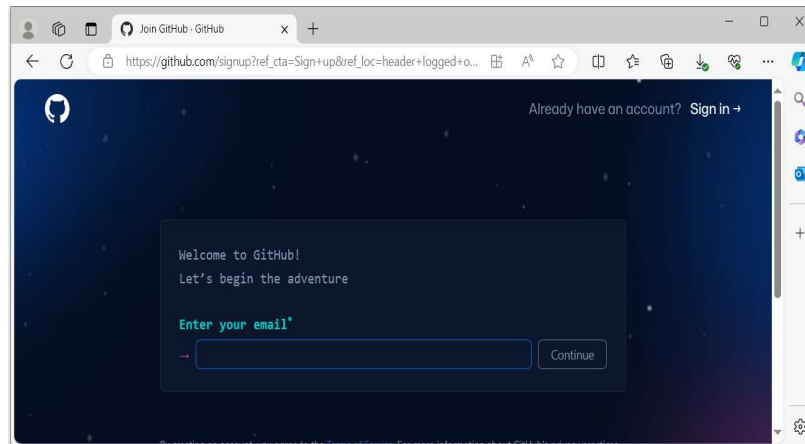
### Step 1: Create a Gmail account

If you already have a Gmail account for yourself, you can skip this step. Otherwise, please create one. Nowadays, people are tired of creating accounts everywhere. Since Gmail has done a good job to maintain its email server, many companies now tend to trust Gmail. Those include some colleges or universities. They do not have email system. Instead, they ask students and faculty to use Gmail.

You will also need your Gmail account to signup/login Github and OpenAI. So, you should have a Gmail account. It is free anyway!

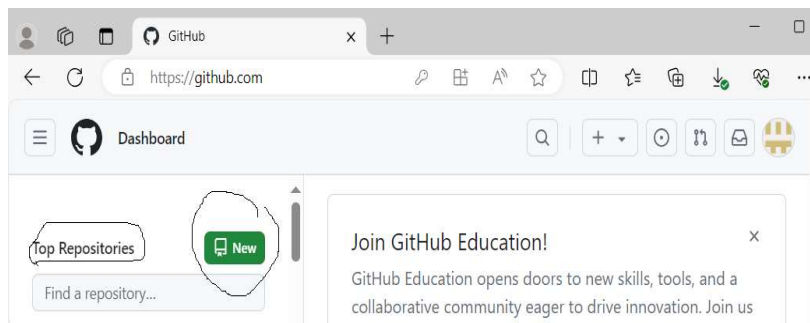
### Step 2: Login Guthub using your Gmail account

Now, click <https://www.github.com> and click on “Sign up” button on the top right corner. Follow the steps to create your Github account.



### Step 3. Login Github and create a repository

After you create an account with Github, you can login now. After login, you will see the screen that has “**Top Repositories**” on the top left screen. A repository is a backup of your work, which can be cloned to any computer you will use. Another big deal of Github repository is that you can use GIT (Global Information Tracker) to monitor and manage collaboration and contribution by others who are on your coding. For our camp, we will not explore those features of Github.



At this moment, you do not have any repositories yet. To create an empty repository, click on the red “**New**” Button.

After that, please enter the information as circled.

**Create a new repository**

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

Required fields are marked with an asterisk (\*).

Owner \*  / Repository name \*

WDD-AI is available.

Great repository names are short and memorable. Need inspiration? How about [turbo-couscous](#) ?

Description (optional)

Public  
Anyone on the internet can see this repository. You choose who can commit.

Private  
You choose who can see and commit to this repository.

Initialize this repository with:

Add a README file  
This is where you can write a long description for your project. [Learn more about READMEs.](#)

Add .gitignore

.gitignore template:

Choose which files not to track from a list of templates. [Learn more about ignoring files.](#)

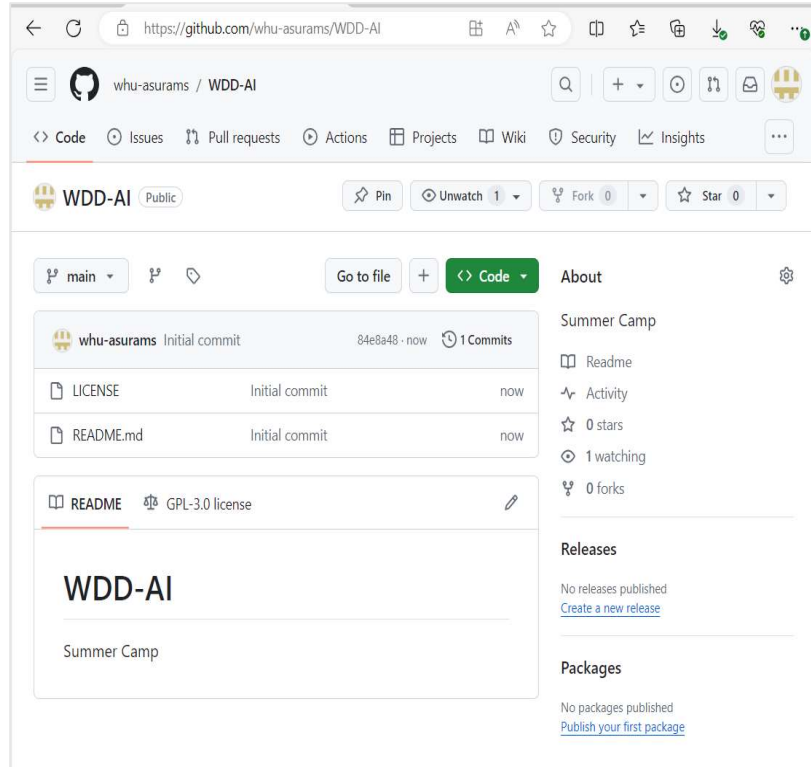
Choose a license

License:

A license tells others what they can and can't do with your code. [Learn more about licenses.](#)

**Create Repository**

Finally, scroll your screen to the bottom and click on the red **“Create Repository”** button. The following screenshot shows what you will see then.




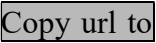
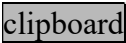


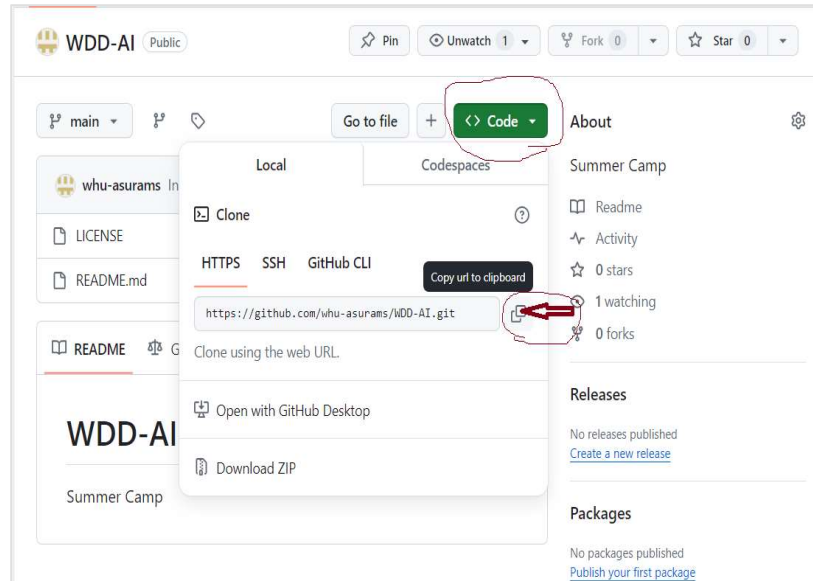
## Section 1.3. Clone a repository from Github to your computer

After creating a blank repository, you can clone it to any computer you want to use. From there, you can add coding or make any changes. When doing so, the GIT is taking care of them. It records any updating, any new files. When you are ready to commit those changes to the original repository, you can use either “synchronize” or “push” to save the changes to Github.

### Step 1. Copy the link to the repository

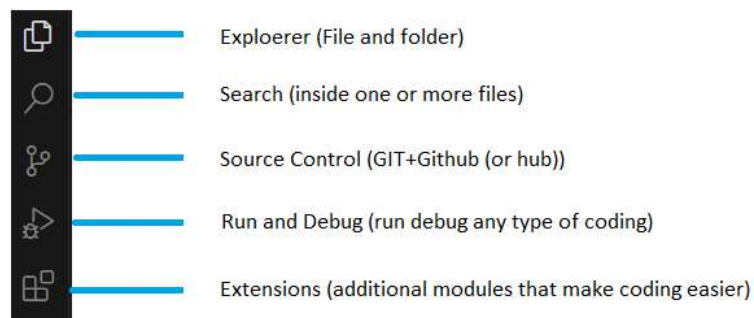
Now, we come back to Visual Studio for Coding again. This time, we will need to clone your Github repository to the computer you are using. The great advantage for doing so is that you can change the computer anytime and continue the work you left behind, as long as the new computer has Visual Studio for Coding and GIT have been installed.

To do so, first copy the link to your Github repository. From your Github account page, you can click on the repository, “WDD-AI”. Then, you will see a red  button as shown below. Then, you will see the popup “ Copy url to ”, click on the icon below, as what has been described in the following screenshot.

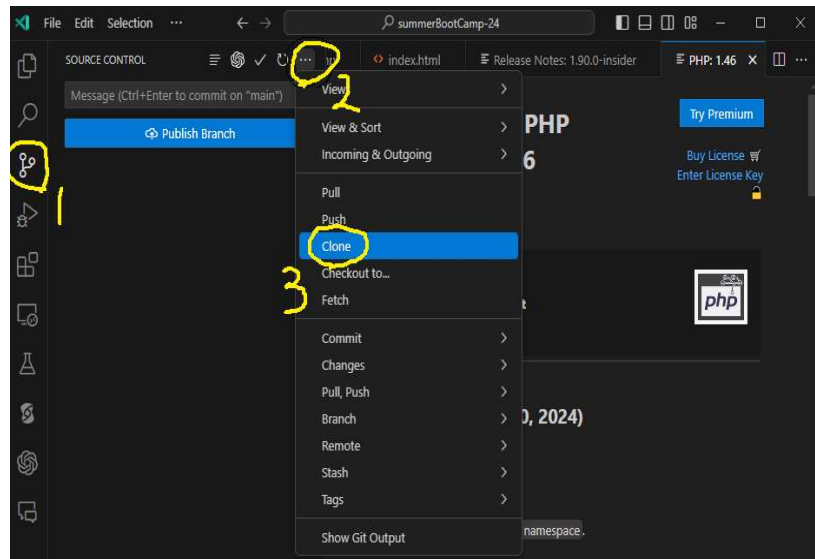


## Step 2. Clone the repository to your computer using Visual Studio for coding

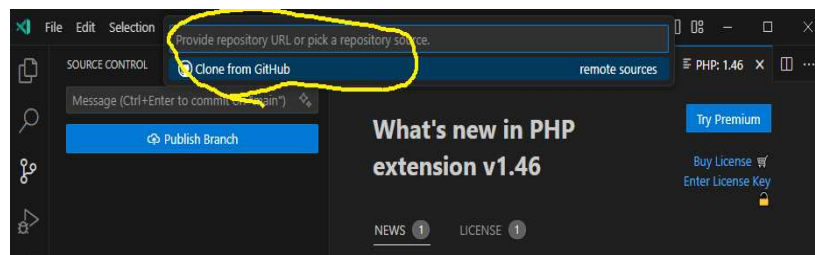
Now, open Visual Studio for coding, get familiar with it, especially the icons on the left-hand side of the screen. Try to click and unclick to get familiar with them.



Click on the source control icon on the left-hand side, then the “View and More Actions”, then “clone” as show in the following picture, which is highlighted in yellow color.



You will see this

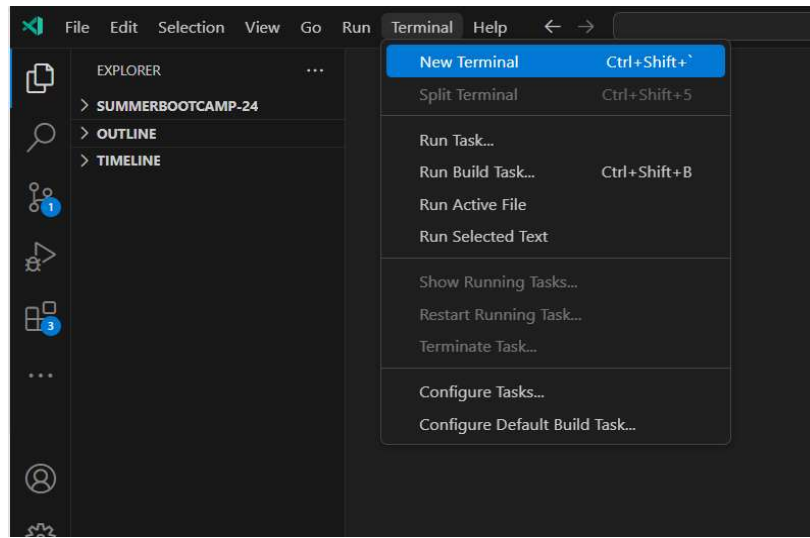


Use Ctrl + V to paste the link to your Github repository. Follow the instructions and choose a local folder inside “C:\ C:\Users\XXX\Documents”.  
 Congratulation, you have successfully hooked the computer you are using with Github.

### Step 3. Synchronize/Push back to the repository

After you add more files to folder in the computer you are using, or make any changes to any files, you can synchronize/push back all changes to Github. Please follow the steps circled in yellow color on the following pictures.

#### a. Open a terminal



### b. Setup your username/email for Github account

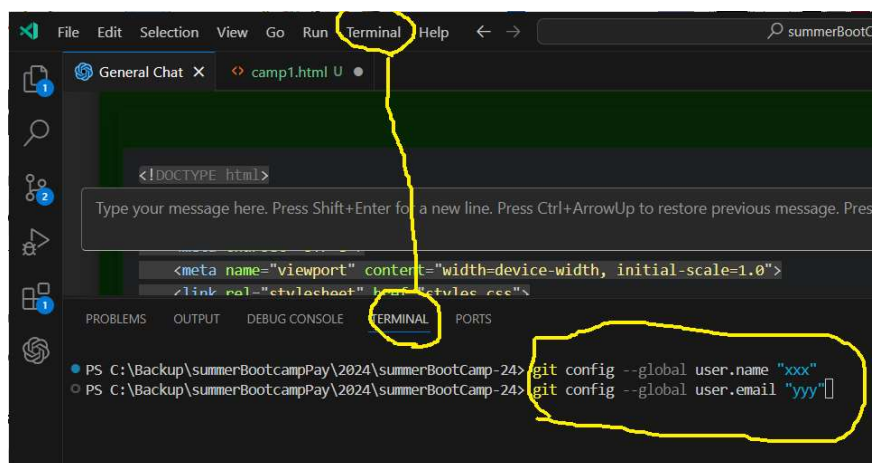
Inside the terminal, type in two commands as shown in the following picture.

```
git config --global user.name "XXX"
```

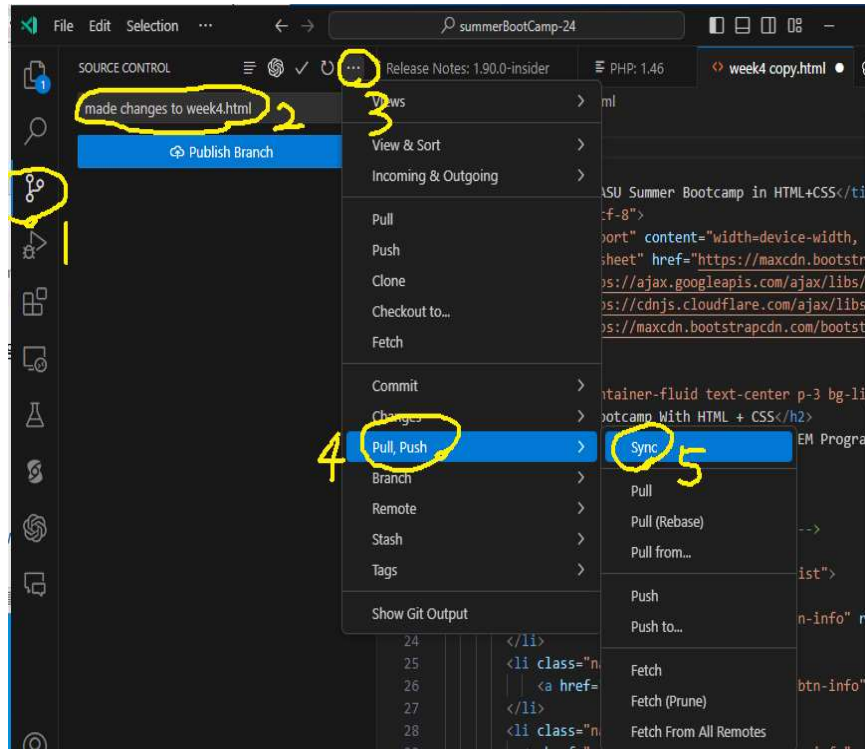
```
git config --global user.email "YYY"
```

XXX stands for the username you used to login Github account.

YYY stands for the email address you used to sign up a Github account.



### c. Push or Sync to Github



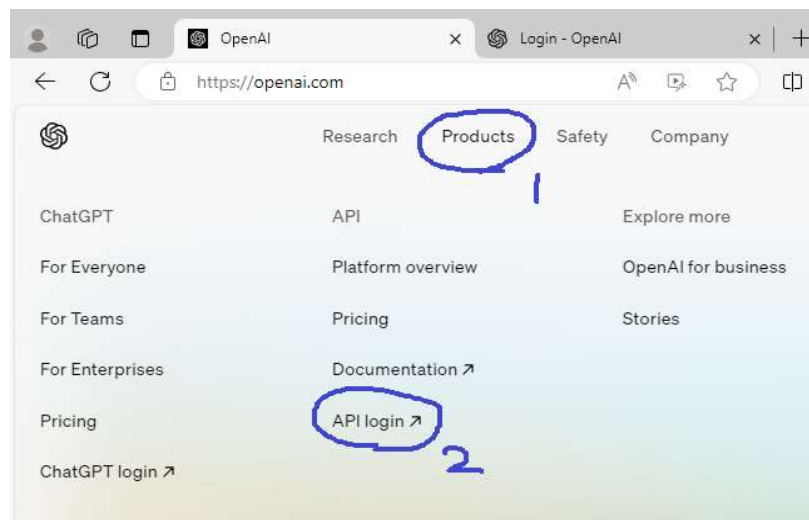
## Section 1.4 Add AI extension to Visual Studio for Coding

Finally, we will need the AI chatbot to help us. To do so, we will need an OpenAI account, and then install some extensions for Visual Studio for coding.

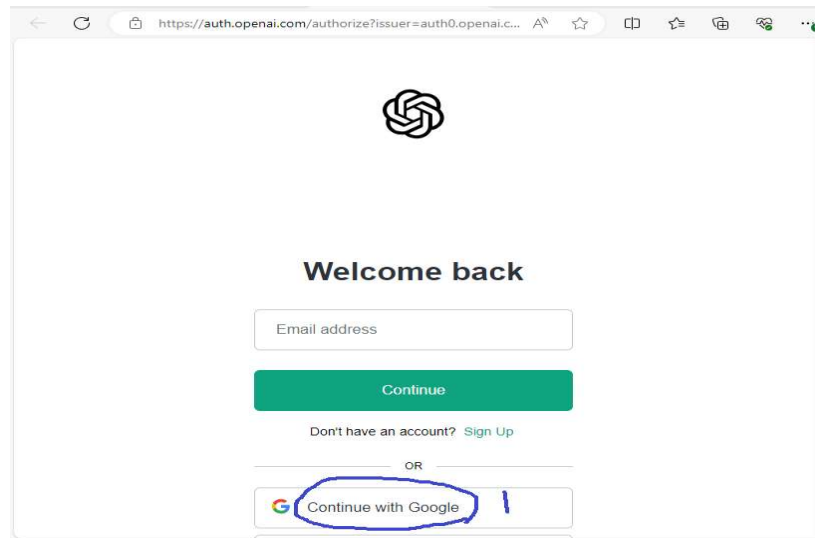
### Step 1: Create an account with OpenAI.

We will need an OpenAI API key for our camp. The key is used to uniquely identify you as an individual and the job you are doing. In that way, the AI can learn from you and your job so that it can provide better support.

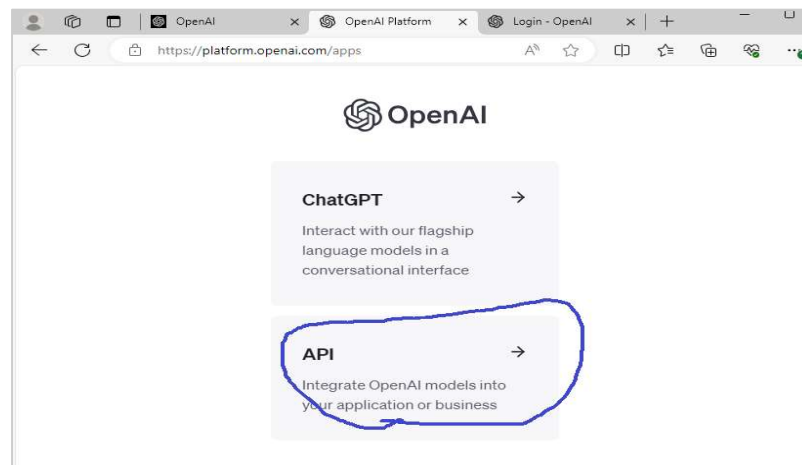
To start, please visit <https://openai.com>. Then, follow the steps circled in Blue color on the following screenshot



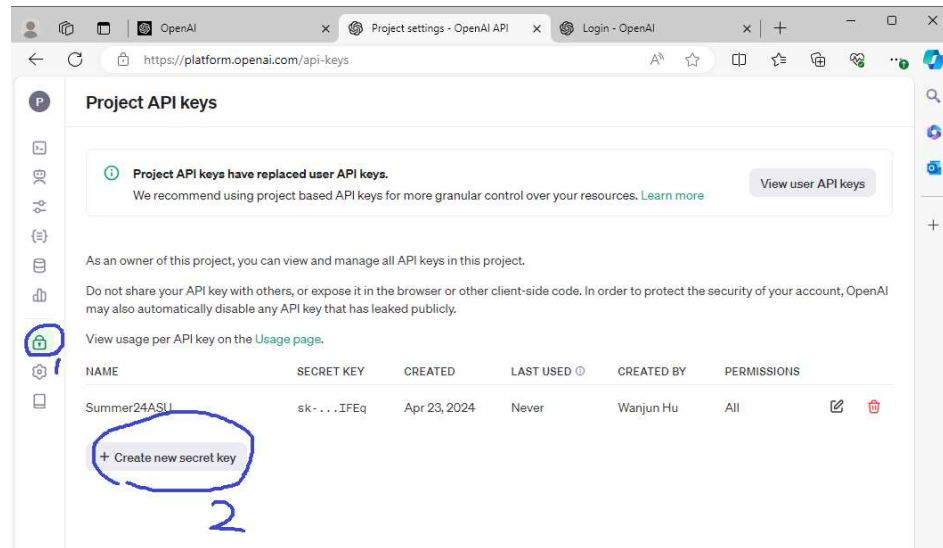
After that, please follow the step circled in Blue color on the following screenshot



Then, click on API as circled below.



Then, follow steps circled in Blue color on the following screenshot.



The API key is automatically created. It is really long!

## Step 2: Install extensions

We will install some extensions too. In particular, we need to install the following extensions:

1. Microsoft IntelliCode (replacing intelliSense).
2. Semantic Kernel Tools
3. TensorFlow Snippets
4. Vscode-openai (we will discuss this in next step)



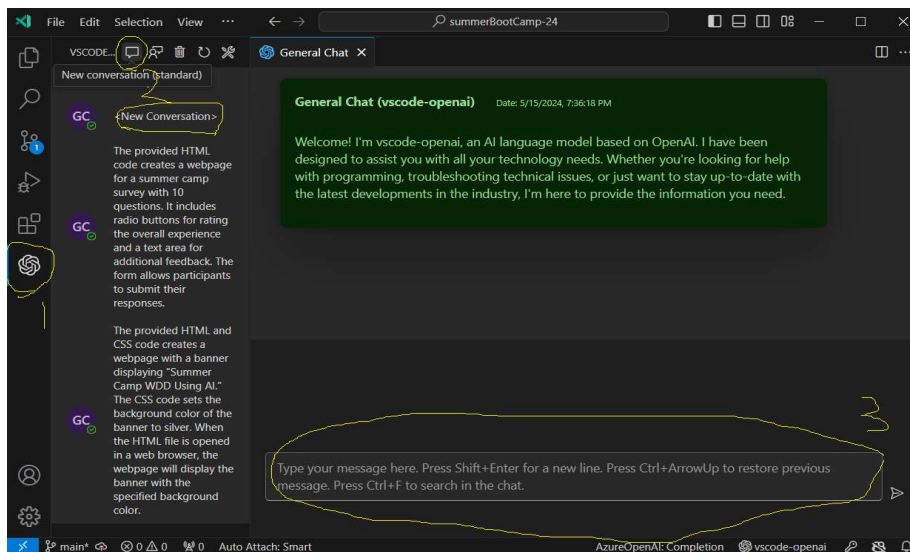
## Section 1.5 Using the AI chatbot to develop webpage

You are ready to use AI to develop your webpage now.

### Step 1: The chatbot

On screenshot below, please follow the steps (1), (2), (3) circled in yellow color.

Step (1) is to locate the Vscode-OpenAI extension icon. Click it. Then, navigate to (2) and click it. Then a chatbot is created. Locate (3) and start chat with chatGPT to create your webpage.



You can try this prompt first.

**Prompt:** Create a webpage that contains a banner showing "Summer Camp WDD Using AI"

**AI:**

**General Chat (vscode-openai)** Date: 4/23/2024, 12:11:32 PM

To create a webpage with a banner showing "Summer Camp WDD Using AI," you can use the following HTML and CSS code:

HTML:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <link rel="stylesheet" href="styles.css">
  <title>Summer Camp WDD Using AI</title>
</head>
<body>
  <div class="banner">
    <h1>Summer Camp WDD Using AI</h1>
  </div>
</body>
</html>
```

CSS (styles.css):

```
body {
  margin: 0;
  padding: 0;
  font-family: Arial, sans-serif;
}

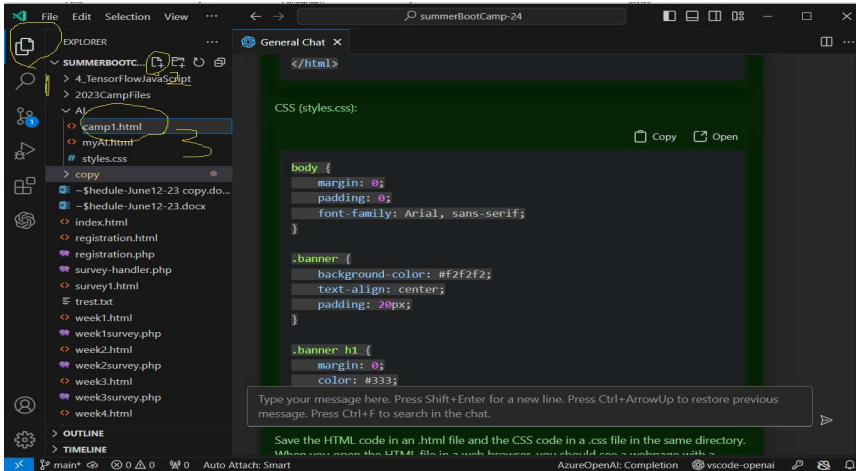
.banner {
  background-color: #f2f2f2;
  text-align: center;
  padding: 20px;
}

.banner h1 {
  margin: 0;
  color: #333;
}
```

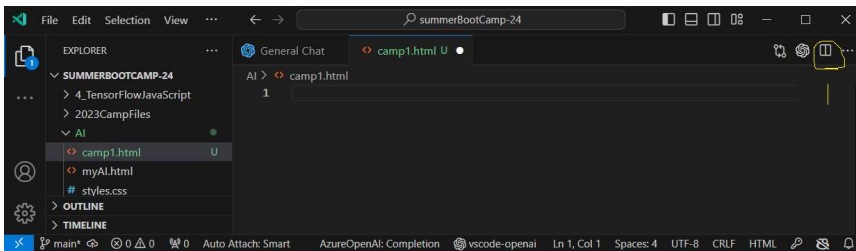
Save the HTML code in an .html file and the CSS code in a .css file in the same directory. When you open the HTML file in a web browser, you should see a webpage with a banner displaying "Summer Camp WDD Using AI."

## Step 2. Create files as instructed by AI

Now, follow what AI says to create one HTML file with a name “camp1.html” and one CSS file with the name “styles.css”.



Split the screen.



Copy the code to camp1.h

