

Python Playground (Intermediate) Virtual Camp

Tuesday, August 4 to Friday, August 7 (4-days)
10:00 AM to 12:00 PM

Daily Schedule

10:00 AM	Virtual Room Opens
10:00 AM - 10:05 AM	Attendance
10:05 AM - 10:55 AM	Lesson and Activity Time
10:55 AM - 11:00 AM	Break
11:00 AM - 11:55 AM	Lesson and Activity Time
11:55 AM - 12:00 PM	Wrap Up

*Monday, August 3 is a STAT Holiday. The University will be closed.

Camp Agenda

Day 1 - Mission Code: Identity

Tuesday, August 4 | 1:00 PM to 3:00 PM

Our Python adventure kicks off with logic, creativity, and secret agent energy! Campers will dive into cybersecurity and get a quick refresher on essential Python skills like data types, input/output, conditionals, and loops. Then, they'll tackle their first challenge: **Operation Snack Stash**. Campers will explore lists and arrays while managing their top-secret spy shopping list.

Day 2 - Operation Codebreaker HQ

Wednesday, August 5 | 1:00 PM to 3:00 PM

Campers will step deeper into their roles as Python agents with a day full of code-powered problem solving and creative construction! Their first task: build a **Random Number Guesser**, using the random library to simulate unpredictable outcomes—perfect training for future undercover missions. Agents will then enter the world of **Turtle**, where they'll learn to draw and animate using code. Their challenge: design and build a digital **spy hideout** from scratch using shapes and motion in Python!

Day 3 - Level Up: Pong Protocol

Thursday, August 6 | 1:00 PM to 3:00 PM

Campers will level up their spy tech by coding a **Turtle screensaver**, learning how to move objects using variables, loops, and logic. Then, they'll upgrade their creation into a **Pong-style training simulation**, using user input to control a paddle and conditional statements to bounce the ball. It's a high-energy day of motion, interaction, and spy-level coding precision!

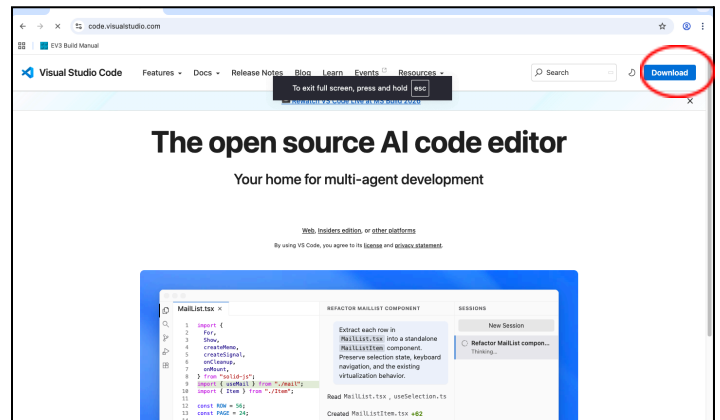
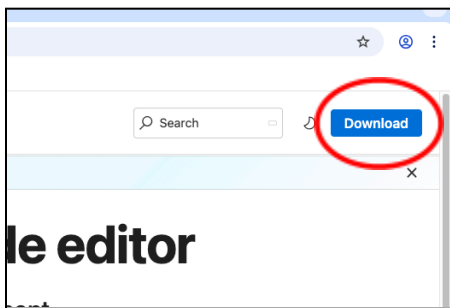
Day 4 - Agent Python: The Apple Retrieval Mission

Friday, August 7 | 1:00 PM to 3:00 PM

On our final day, campers will kick off the day by putting the final touches on their **Pong Protocol project**, then take on their biggest challenge yet—coding a custom **Snake game**! They'll build and control their snake, collect randomly placed apples, and grow their game using logic and input. It's a creative and exciting way to bring together everything they've learned in their week of coding missions!

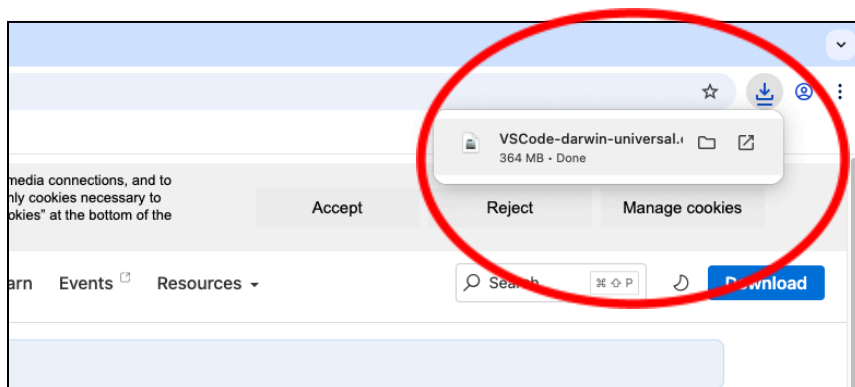
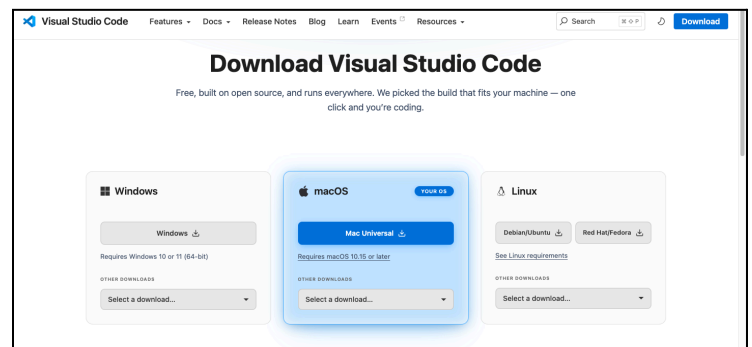
Getting Set Up in Visual Studio Code

STEP 1: Click on the link:
<https://code.visualstudio.com/>. Once you have clicked on the link, your page should look like the image on the right. Click on the top right "Download" button to install VS Code.



STEP 2: A new page will appear as shown in the image on the right.

Download the appropriate file for your system and follow the instructions when the installer has downloaded. The installer should appear in your downloads file or at the top right of your screen as shown below.

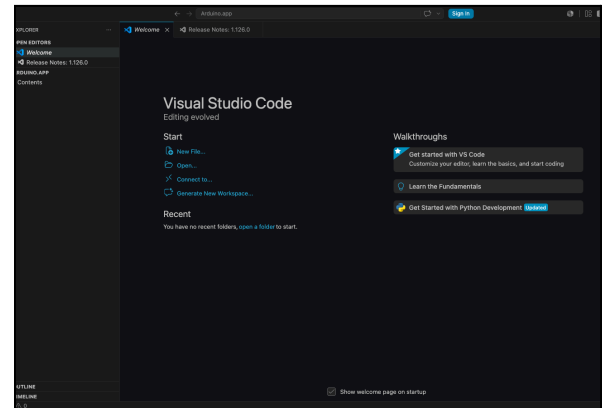
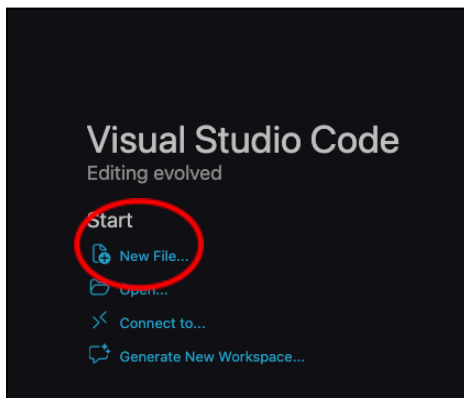


Please ensure your child has ample time before the first day of camp to set up Visual Studio Code!

STEP 3:

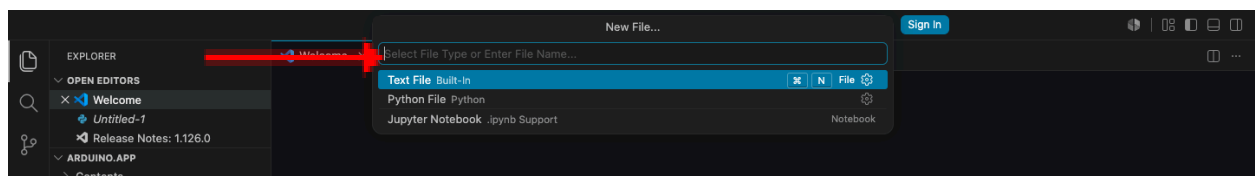
Open Visual Studio Code once downloaded, the window should look like the image on the right.

Below “Start”, click on “New File...”.



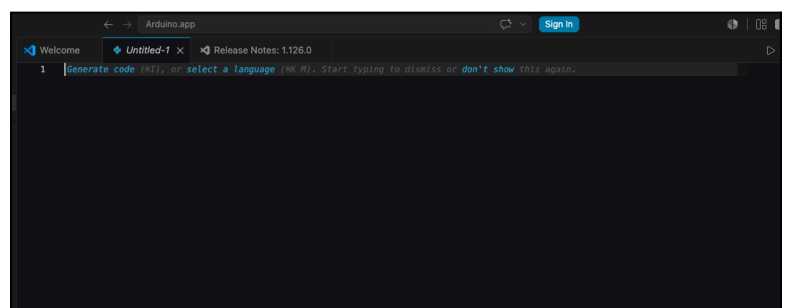
STEP 4:

Click on “Python File”. If it is not an option, Python must be installed. If Python is not currently installed on your computer, follow these instructions on how to install <https://code.visualstudio.com/docs/languages/python>. This may take a few minutes.



STEP 5:

Open a new Python File. Your screen should look like the image on the right. In order to test, we strongly recommend pasting the code on the next page!



```
import random
attempts = 0
code = random.randint(1, 1000)
max_attempts = 5

while attempts < max_attempts:
    guess = int(input("Enter your code guess (1-10): "))
    attempts += 1

    if guess == code:
        print("Secret Code cracked!")
        break
    else:
        print("Access denied. Try again.")

if attempts == max_attempts and guess != secret_code:
    print(" Maximum attempts reached. The vault is locked down.")
```

You've just set up your first project workspace — now you're all set for an exciting coding camp adventure!