Learning to Code: Intermediate Python
Virtual Camp

Tuesday, August 5 to Friday, August 8 (4-days)
1:00 PM to 3:00 PM

Your coding skills have caught attention—you've been recruited to the elite Python Operatives! In this project-based, spy-themed camp, campers will level up their coding skills by exploring more advanced Python concepts, including data types, functions, and libraries using **EduBlocks.** Through hands-on design challenges, they'll solve complex problems using logic, creativity, and code. Each activity is crafted to deepen their understanding while keeping the fun alive. Along the way, campers will explore how real-world software engineers and computer scientists use coding to make a difference in our world.

General Technology Needs

Students taking part in the sessions will each need a computer to join the sessions. Tablets (e.g. iPad), other mobile devices and gaming consoles are not recommended for the program. Ensure students will have internet access with minimum download speed of 5Mbps and an audio device (e.g. speakers, headphones/earbuds, headset).

Daily Schedule

1:00 PM	Virtual Room Opens
1:00 PM - 1:05 PM	Attendance
1:05 PM - 1:55 PM	Lesson and Activity Time
1:55 PM - 2:00 PM	Break
2:00 PM - 2:55 PM	Lesson and Activity Time
2:55 PM - 3:00 PM	Wrap Up

Camp Agenda

Day 1 - Mission Code: Identity
Tuesday, August 5 | 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 6 | 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 **Pygame,** 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 7 | 1:00 PM to 3:00 PM

Campers will level up their spy tech by coding a **Pygame 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 8 | 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 Edublocks

STEP 1: Click on the link: https://app.edublocks.org/. Once you have clicked on the link, your page should look like the image on the right.
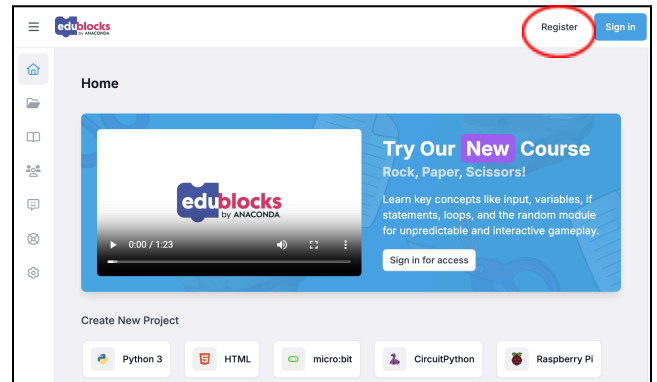
STEP 2: Click on the white "Register" button in the upper right corner to create a new account. A new page will appear as shown in the image on the right.

Once all fields have been completed, click on the blue "Register for free" to create an account. You can connect and use either a google, microsoft or anaconda email.

Please ensure your child has access to the email address and password on the first day of camp!

STEP 3: On the homepage, find "Create New Project" as shown in the image below and click on "**Python 3**".
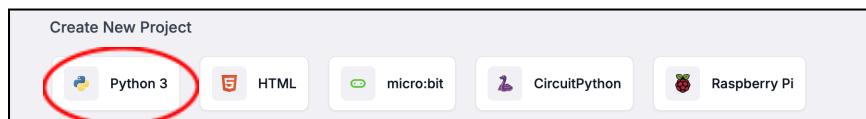
This will prompt a new page to appear as pictured on the right.

STEP 4:

Enter a project name (Test).
Click on "Text Only".
Click on the blue "Create" button to launch a new workspace.

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