Introduction to Programming in Python

This course provides middle school students with a fun and engaging introduction to Python programming, covering basic concepts like variables, loops, and functions. Lessons include hands-on projects and exercises that encourage creativity while solidifying coding skills. Students also learn important problem-solving and logic skills by breaking down tasks into manageable steps and designing clear solutions. By the end of the course, students will have gained confidence in writing Python code and the foundational knowledge needed to progress to more advanced programming challenges. More information can be found at https://lucasraicu.github.io/teaching/coding.pdf.

Learning Objectives:

- Understand Fundamental Concepts: Students will learn basic Python syntax, including variables, data types, and simple operations.
- Use Core Programming Structures: Students will gain proficiency in using conditionals (if/else) and loops (for/while) to control the flow of a program.
- Apply Modular Design: Students will learn how to create and use functions to break down larger tasks, promoting more organized and maintainable code.
- Develop Problem-Solving Skills: Students will practice analyzing problems, planning solutions, and debugging code.

Pre-requisites:

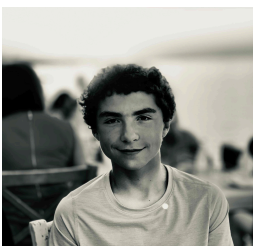- No computer science or coding experience needed

Target Audience:

- 6th grade through 8th grade

Proposed time:

- 90 minutes

Instructor:

- Lucas Raicu, Junior at Glenbrook South High School (GBS)

Lucas is a junior at Glenbrook South High School (GBS). He has taken a rigorous college preparatory curriculum that includes Algebra 2, Precalculus, Advanced Placement (AP) Calculus, Biology, Chemistry, Physics, Computer Science Honors, AP Computer Science, and Foundational Artificial Intelligence. He is aiming to pursue an undergraduate degree in computer science with the ultimate objective of earning a PhD and becoming a university professor. He is deeply passionate about music, sports, and academics. He holds prominent roles in the soccer and tennis program, while also leading the symphonic orchestra as the co-assistant concertmaster. He finds joy in playing chess and ping-pong with his friends, as well as skiing in the winter. Even though he is only sixteen years old, he always strives to become the best version of himself.