OntarioTech Engineering & Applied Science

2024 Virtual Summer Camps

Learning to Code: Beginner Python (Ages 12 to 13)

Tuesday, July 2 to Friday, July 5 (4-days)
10:00 am to 12:00 pm EDT

Camp Description

Campers will be introduced to the basics of Python programming using Replit. From operators to conditional statements, to loops, campers will learn to code through a series of exciting coding challenges that put their knowledge to the test. This introductory camp will prepare campers for any future coding classes or coding languages they want to learn. No coding experience is required!

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).

Required Materials

Students will be encouraged to follow along with any hands-on activities presented in each session. Parents/guardians and participants are responsible for gathering recommended materials if the participant is interested in performing the hands-on activities. Parents/guardians are also responsible for monitoring the students in the use of any tools and/or equipment.

Camp Summary

July 2, 2024	July 3, 2024	July 4, 2024	July 5, 2024
Replit, Print Statements, Variables, Input and Output	Data types, Types of errors, Variables and Operators	Boolean Operators, Conditional Statements, Loops	Functions, Reviewing and combining all topics, Final project

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Day 1
Tuesday, July 2 | 10:00 AM to 12:00 PM

Campers will kick off the camp by learning about coding and its real-world applications. They will cover Python basics like naming conventions, print statements, input/output, and variables through Replit. Using print statements, they will create a name tag and share fun facts about themselves. To combine what they've learned in the first session, campers will create a fun and engaging storytelling game.

Day 2
Wednesday, July 3 | 10:00 AM to 12:00 PM

In the second session, campers will learn about Python data types like integers and floats, as well as operators, which they will use to code complex equations using BEDMAS. They will also learn how to convert and identify data types to avoid errors. To reinforce these topics, campers will debug code with errors and create calculators to solve for the hypotenuse of a triangle, combining concepts from current and previous sessions.

Day 3
Thursday, July 4 | 10:00 AM to 12:00 PM

On the third day, campers will recap previous concepts and move on to more advanced topics like boolean operators, conditional statements, and loops. They will create a program to determine if a number is positive or negative and code a game called Two Truths and a Lie. To summarize and test their knowledge, campers will code a quiz game using loops, conditional statements and concepts from the previous two sessions.

Day 4
Friday, July 5 | 10:00 AM to 12:00 PM

On their final day, campers will kick off with an exciting Kahoot review, bringing all the concepts together. They'll dive into functions and take on the challenge of unscrambling a Python code. Finally, campers will wrap up the camp by combining all their knowledge into a final project which they can showcase to their peers.

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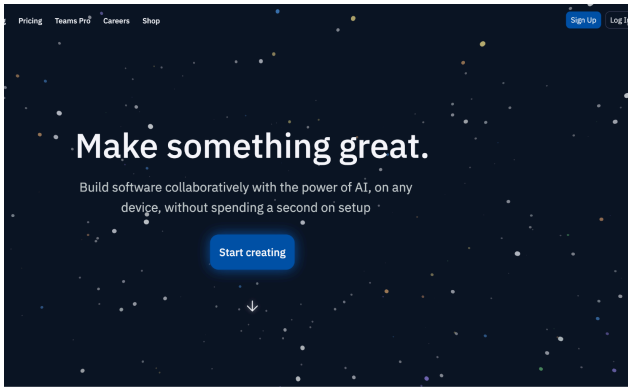
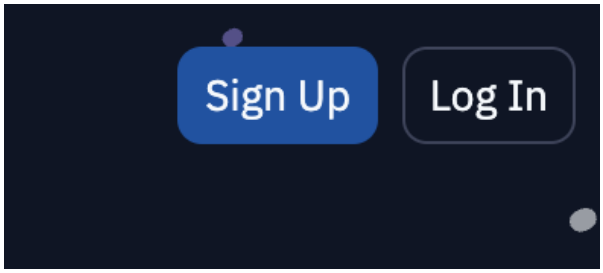
Getting Set Up in Replit

STEP 1: Click on the link: https://replit.com/. Once you have clicked on the link, your page should look like the figure below.



If you would like to set up a Replit account for your camper to save their work, continue from **STEP 2.** If you have already created an account and would like for your camper to be able to save their work, please click 'Sign in'. Otherwise, you can skip to **STEP 3**.

STEP 2: Click on "Sign Up". Fill out the required information until you get a message saying you have created your account. Once you have created an account, you can start a project.



STEP 3: Click on "Create Repl" , this will start a project.

If a Green video pops up, click on the X where it says 'close' in the top right corner of the video.