

Programming the RI5 hub with Python

by Ahmad Sahar

Hi! I'm Shah. I'm a professional trainer specialising in MacOS and iOS software and hardware, and I also conduct classes on iOS App Development and LEGO Mindstorms.

Today we're going to learn how to program LEGO Mindstorms RI5 with Python. You ready? Great! Let's go!

What you need:

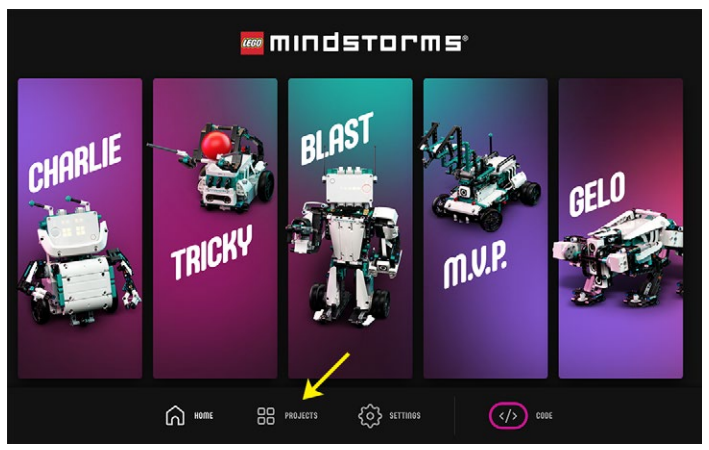
- LEGO Mindstorms Robot Inventor (set no. 51515)
- A computer (Mac/Windows), tablet (iOS/Android) or phone (iOS/Android) with the Mindstorms Robot Inventor app installed

Before you begin

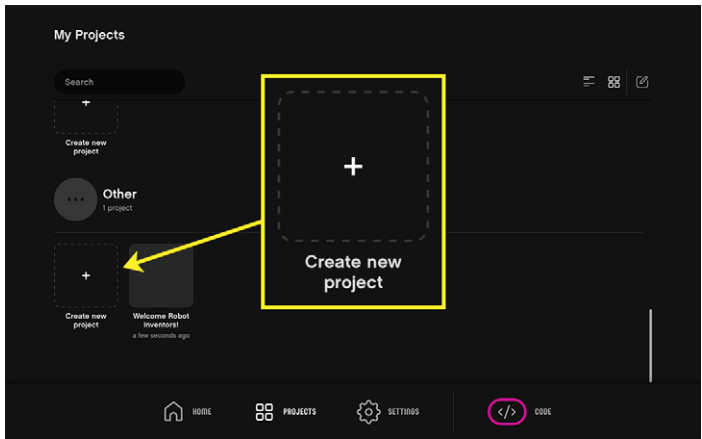
For this lesson you only need the RI5 programmable hub. Make sure the batteries in your programmable brick and device are charged.

Your first program

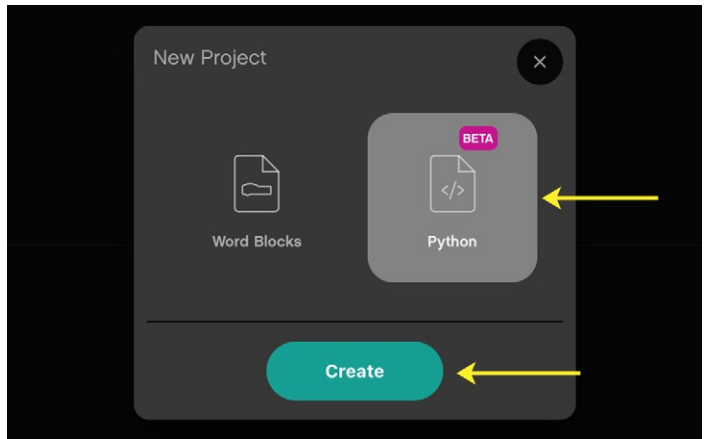
In this lesson, you'll just use the default project template, which makes your hub beep. Follow these steps.



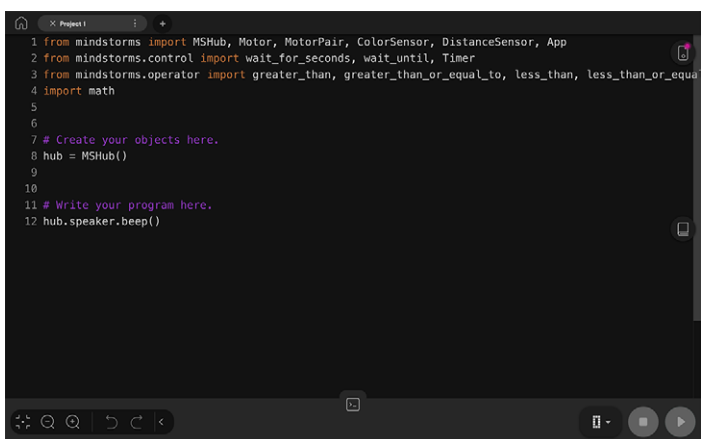
1 Launch the Robot Inventor app and choose Projects:



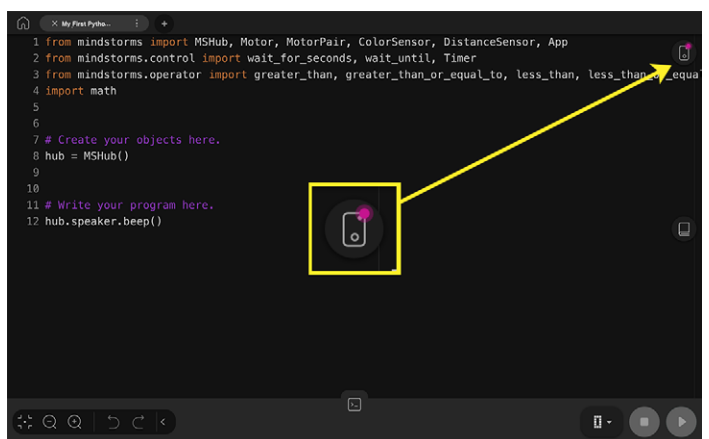
2 Choose Create New Project:



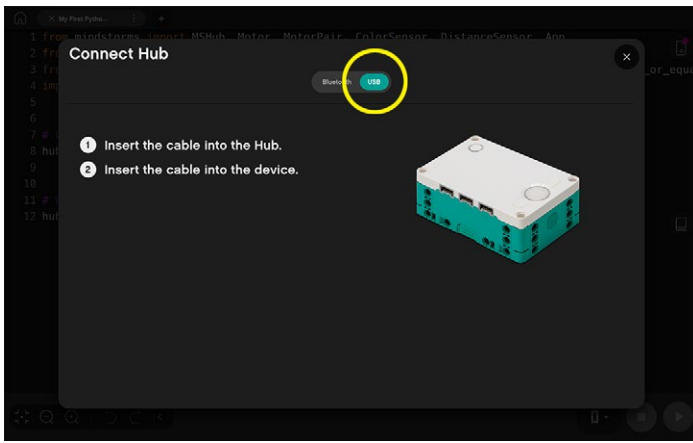
3 You can either create a Scratch project or Python project. Click Python then click Create:



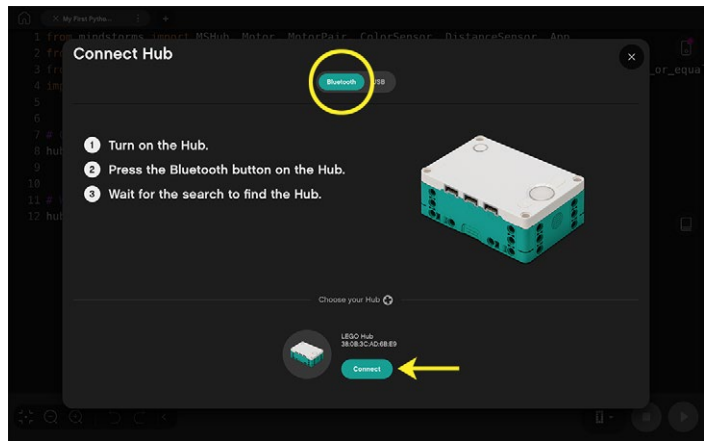
4 Your project will be displayed on-screen. You have successfully created your first project! Great! Next, you'll connect to the hub so that you can run your script.



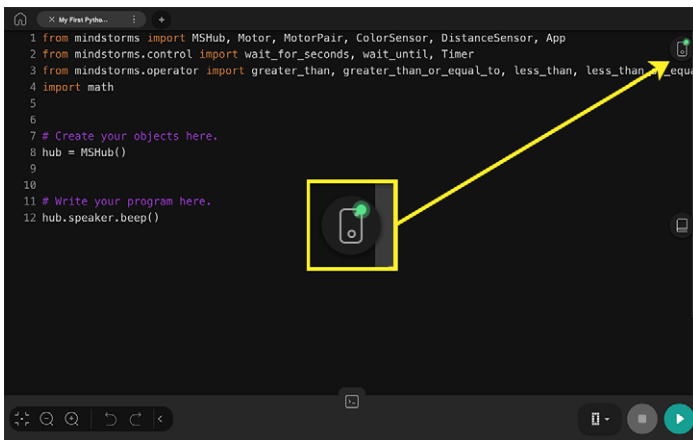
5 Click the hub icon in the upper right hand side of the screen:



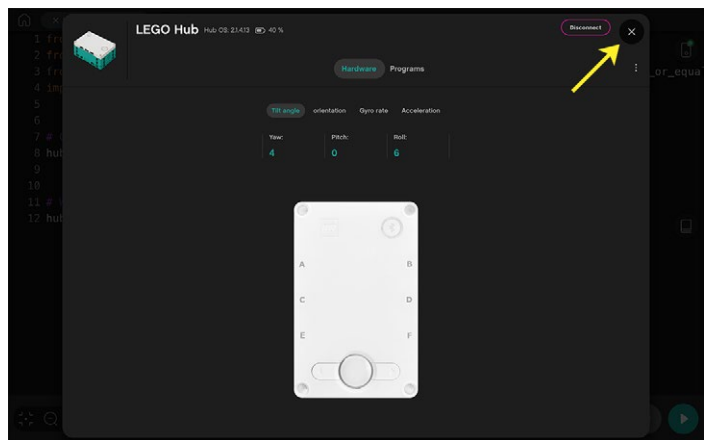
6 Follow the on-screen instructions to connect using USB or Bluetooth. (USB is not available with mobile devices.) The USB connection screen is shown above. The hub will be automatically detected and beep once connected over USB. Note: If your computer delivers sufficient power over the USB port, it will also charge the hub.



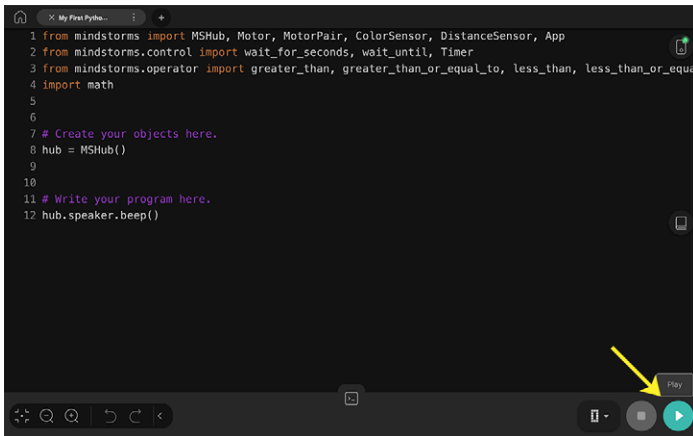
7 The Bluetooth connection screen is shown above. Follow the instructions on the screen and click Connect when your brick appears in the lower part of the screen. The hub will beep once selected.



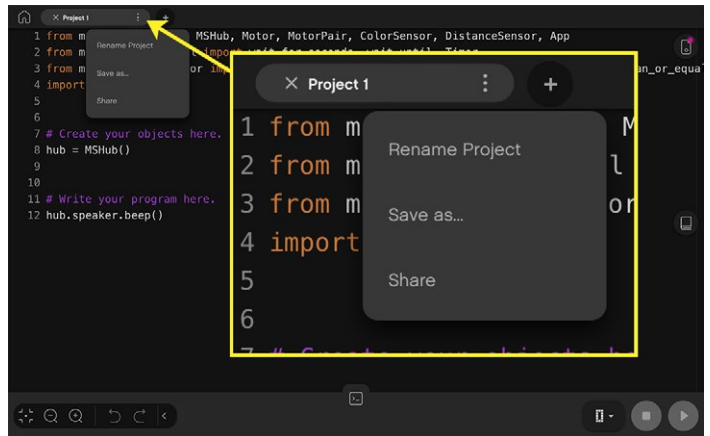
8 Once your hub is connected, you'll see a notification pop up, and the red dot on the hub icon will turn green:



9 Clicking the hub icon will show you a detailed view of your hub. Click the x button to dismiss this screen. You have successfully connected your RI5 programmable hub!



10 Now you'll run your script. Click on the green arrow at the lower right hand side of the screen to transfer your script to your hub and run it. You should hear your hub beep.



11 If you wish, in the desktop environment, you can rename your project by clicking the line of three vertical dots next to the project name. On mobile devices you will have to close the tap the home icon, then the projects icon, then the edit icon, select the project, then Rename.

Yay!

You have just created and run your first Python program on the RI5 programmable hub! In the next lesson, you'll explore the Python programming user interface, learn about the program you created and view the programming documentation in the Robot Inventor app. See you then!