Assembly

1. Print the Enclosure

- **Filament Required: Approximately 50 grams**
- **Estimated Print Time: About 2 hours at 0.2 mm layer height**

2. Print the Button

- **Multicolor Version: Uses around 40 grams of filament and takes about 1.5 hours**
- **Single-Color Version: Generally faster print time than multicolor**

3. Wire the Keyboard Switch

1. **Solder two wires to the keyboard switch terminals.**
2. **Connect one wire to Arduino GND and the other wire to Arduino PB0.**

4. Install the Mechanical Key Switch & Arduino

1. **Snap-fit the switch into the designated slot in the printed enclosure.**
2. **Slide the Arduino ATtiny85 (Digispark) board into its rail.**
3. **Insert the 3D-printed springs (add a small amount of glue if they feel loose).**
4. **Align the cable notch and gently press the 3D-printed button on top.**
5. **Place the enclosure ring from the top and snap-fit it into place.**
6. **Refer to any assembly pictures or diagrams for additional guidance.**

5. Flash the ATtiny85 → see next chapter

Installing and Setting Up Arduino for Digispark ATtiny85

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1. Download and Install Arduino IDE

- Visit the official Arduino website: Arduino Software
- Download the installer for your operating system (Windows, Mac, or Linux).
- Run the installer and follow the on-screen instructions to complete the installation.

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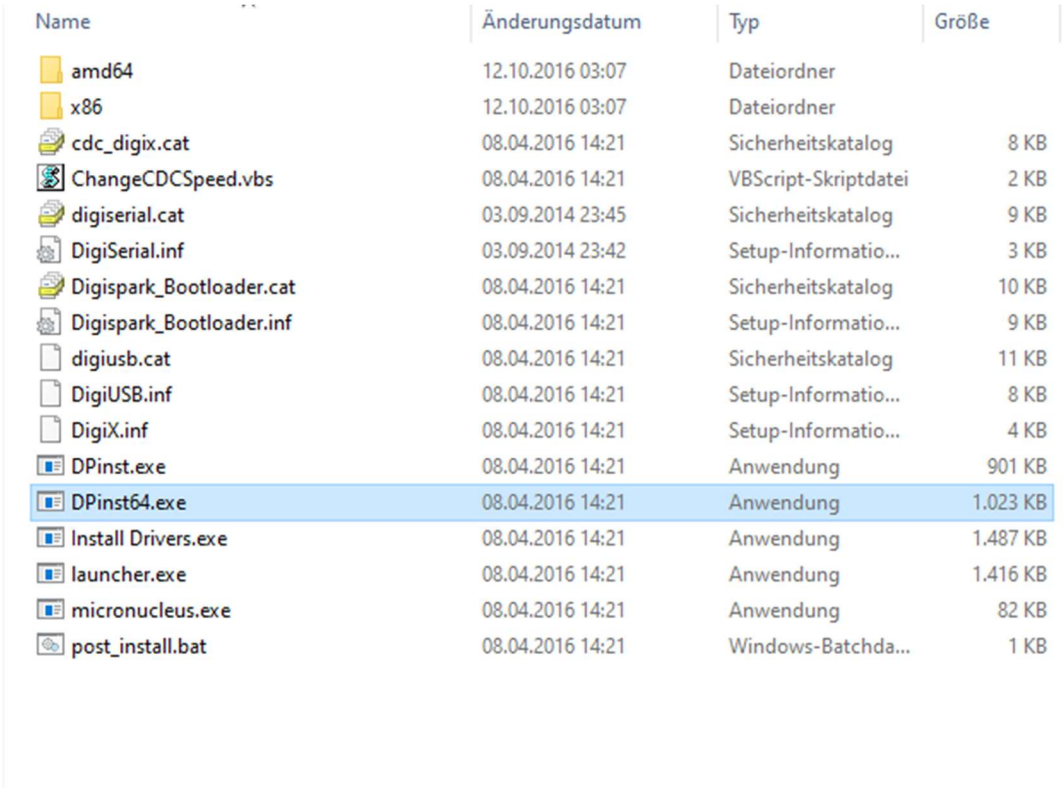
2. Install the Digistump Drivers (Windows)

- Locate the Digistump_DRIVER.zip file.
- Extract (unzip) the contents to a folder on your computer.
- Inside the extracted folder, run DPinst64.exe (for 64-bit systems) or DPinst.exe (for 32-bit systems).



Name	Änderungsdatum	Typ	Größe
amd64	12.10.2016 03:07	Dateiordner	
x86	12.10.2016 03:07	Dateiordner	
cdc_digix.cat	08.04.2016 14:21	Sicherheitskatalog	8 KB
ChangeCDCSpeed.vbs	08.04.2016 14:21	VBScript-Skriptdatei	2 KB
digiserial.cat	03.09.2014 23:45	Sicherheitskatalog	9 KB
DigiSerial.inf	03.09.2014 23:42	Setup-Informatio...	3 KB
Digispark_Bootloader.cat	08.04.2016 14:21	Sicherheitskatalog	10 KB
Digispark_Bootloader.inf	08.04.2016 14:21	Setup-Informatio...	9 KB
digiusb.cat	08.04.2016 14:21	Sicherheitskatalog	11 KB
DigiUSB.inf	08.04.2016 14:21	Setup-Informatio...	8 KB
DigiX.inf	08.04.2016 14:21	Setup-Informatio...	4 KB
DPinst.exe	08.04.2016 14:21	Anwendung	901 KB
DPinst64.exe	08.04.2016 14:21	Anwendung	1.023 KB
Install Drivers.exe	08.04.2016 14:21	Anwendung	1.487 KB
launcher.exe	08.04.2016 14:21	Anwendung	1.416 KB
micronucleus.exe	08.04.2016 14:21	Anwendung	82 KB
post_install.bat	08.04.2016 14:21	Windows-Batchda...	1 KB

- Follow any on-screen prompts to install the driver.

Note: On Windows 10 or higher, sometimes the drivers install automatically when you plug in the device. However, if it doesn't install automatically, follow the steps above.

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3. Copy the Arduino Sketch to Your Arduino Folder

- Copy the chadGPT_attiny85.ino file into your Arduino sketch folder, typically found at:

C:\Users\YOURUSERNAME\Documents\Arduino

- Ensure the .ino file is in a folder named chadGPT_attiny85 or something descriptive, as the Arduino IDE generally expects the sketch file to be in a folder of the same name.

---

4. Open the chadGPT_attiny85.ino Sketch

- Launch the Arduino IDE.
- Go to **File > Open**, and navigate to the folder where you placed chadGPT_attiny85.ino.
- Select and open the sketch.

---

5. Add the Additional Board Manager URL

- In the Arduino IDE, go to **File > Preferences**.
- In the **Additional Board Manager URLs** field, add the following URL:

http://drazzy.com/package_drazzy.com_index.json

- Click **OK** to save.

5.1 Alternative Method (If the URL Is Inactive or Not Working)

- If for any reason the above URL is no longer active:
    - Locate your downloaded ATTinyCore_BOARDLIBRARY.zip.
    - Extract (unzip) it.
    - Copy the unzipped ATTinyCore folder into:

C:\Users\YOURUSERNAME\AppData\Local\Arduino15\packages

- This manually installs the ATTinyCore package without using the online Boards Manager URL.

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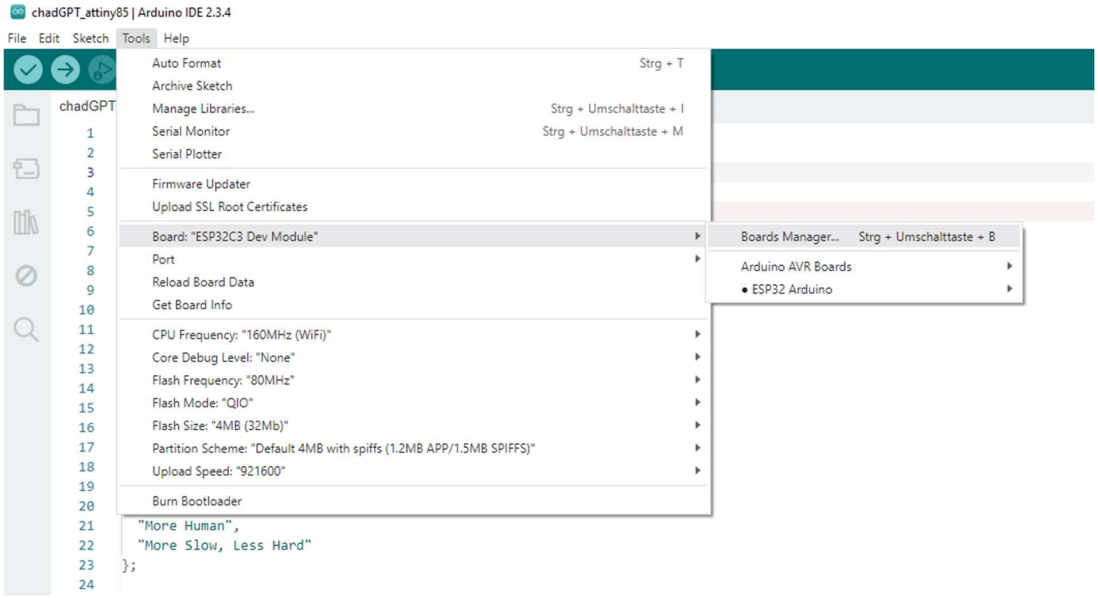
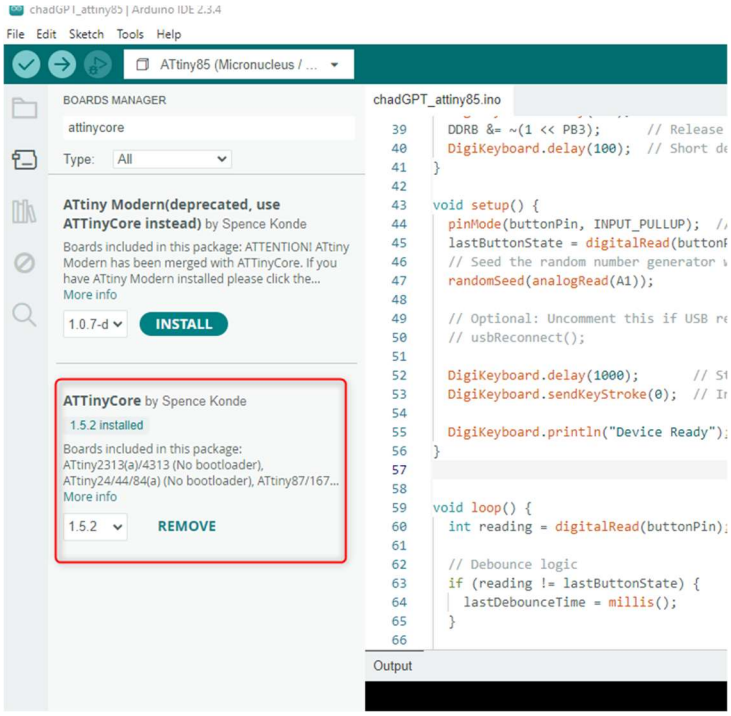
6. Install ATTinyCore Via the Boards Manager

- In the Arduino IDE, go to **Tools > Board > Boards Manager**.



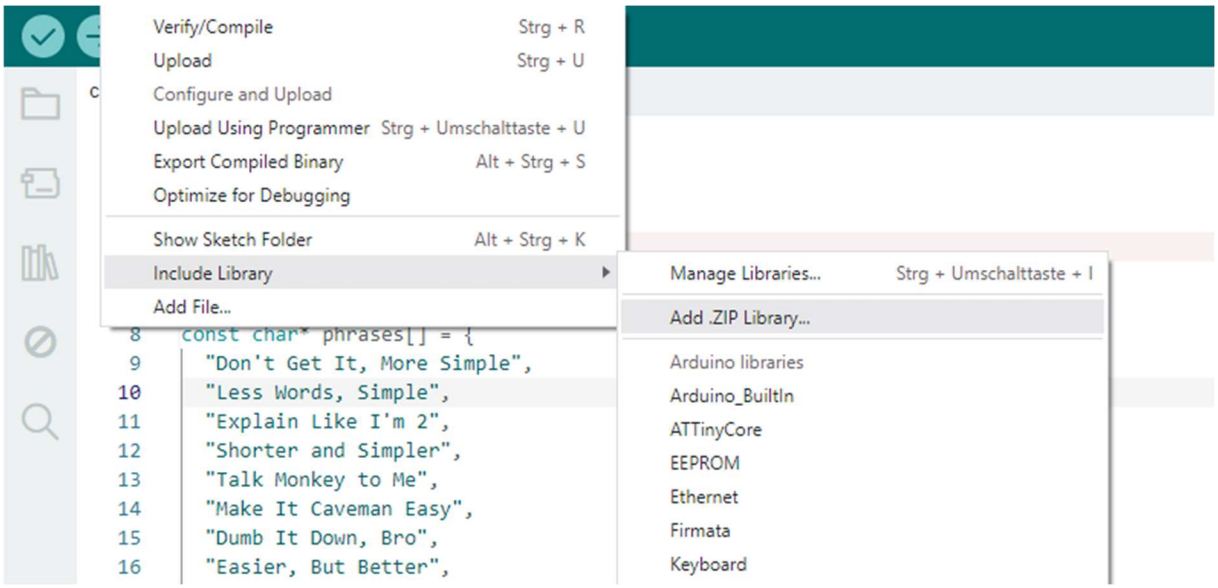
- In the search bar, type **ATTinyCore**.
- Locate **ATTinyCore by SpenceKonde** (or similar) in the search results.



- Click **Install** for version **1.5.2** (or the latest version available).

7. Install the DigisparkKeyboard Library

- In the Arduino IDE, go to **Sketch > Include Library > Add .ZIP Library…**



- Navigate to the DigisparkKeyboard-master_LIBRARY.zip file and select it.
- The library will install automatically.

7.1 Alternative Method (If the ZIP Install Fails)

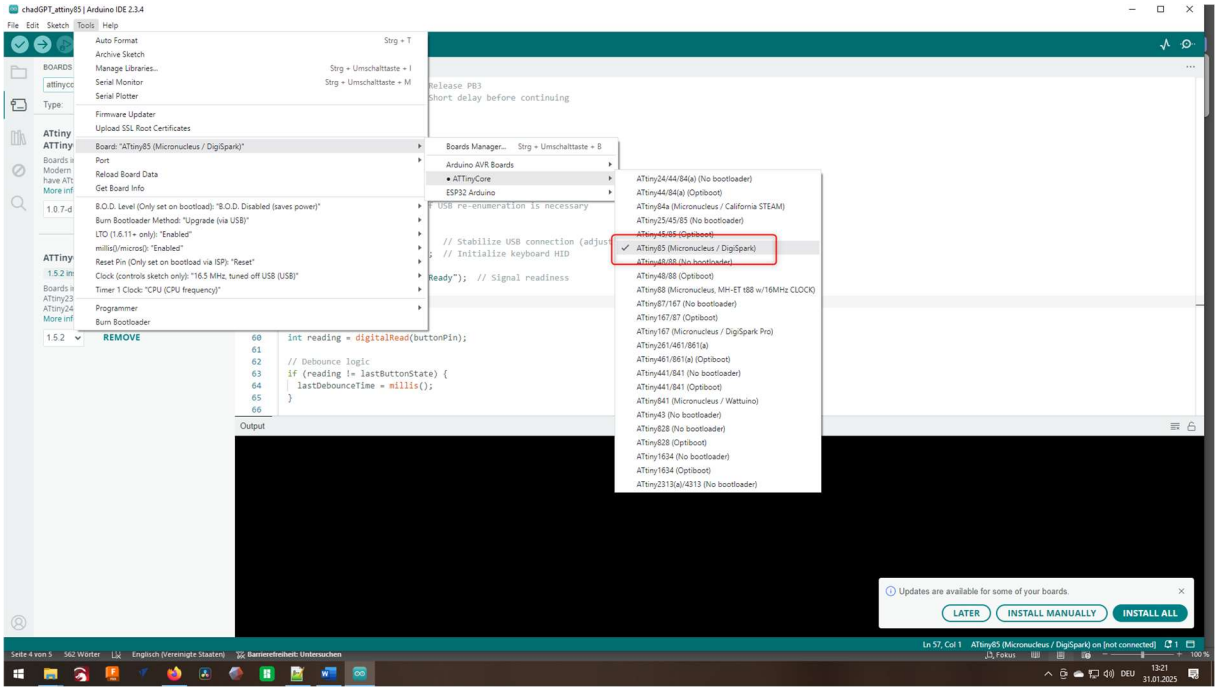
- If the Arduino IDE fails to install from the ZIP:
    - Unzip the contents of DigisparkKeyboard-master_LIBRARY.zip.
    - Copy the extracted folder into:

C:\Users\YOURUSERNAME\Documents\Arduino\libraries\DigisparkKeyboard-master

    - Restart the Arduino IDE if necessary, and the library should be recognized.

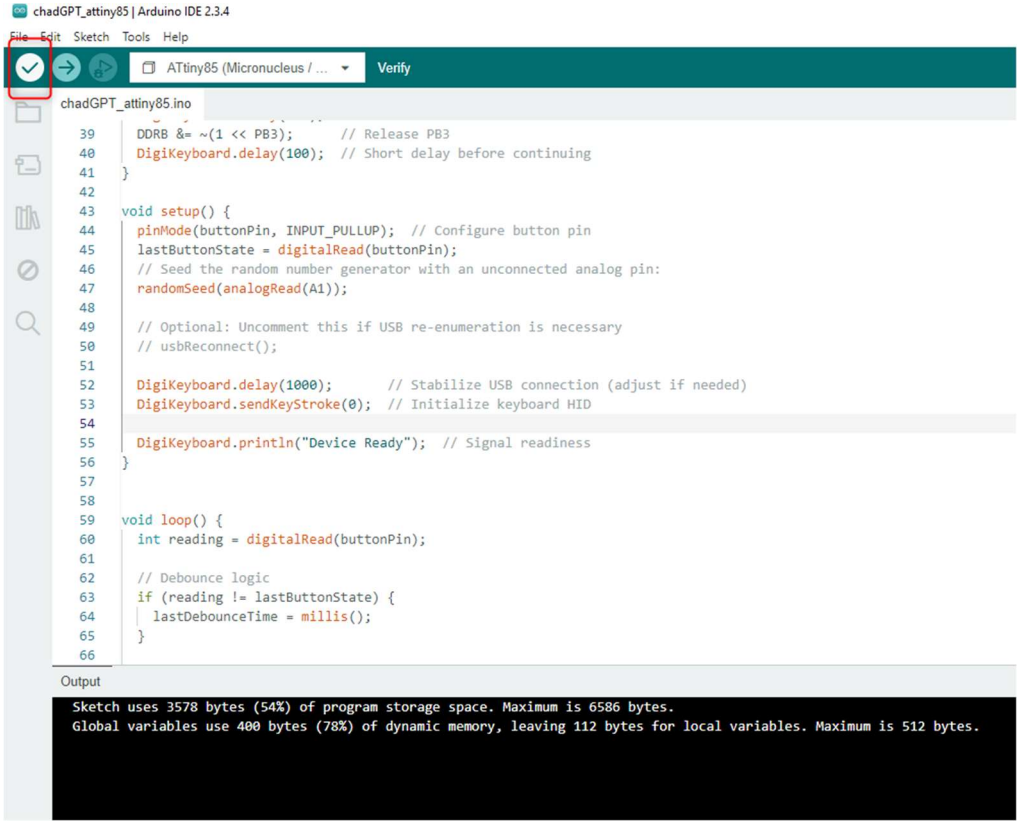
8. Compile the Sketch

- In the Arduino IDE, ensure the correct board is selected under **Tools > Board**.



- Since you're using **Digispark/ATTiny85**, select the appropriate ATTiny85 settings provided by ATTinyCore or the Digispark profile.

- Click the **Verify (✓) button** (or go to **Sketch > Verify/Compile**) to compile your sketch.



- Watch the status window for any errors. If it compiles successfully, move on to the upload step.

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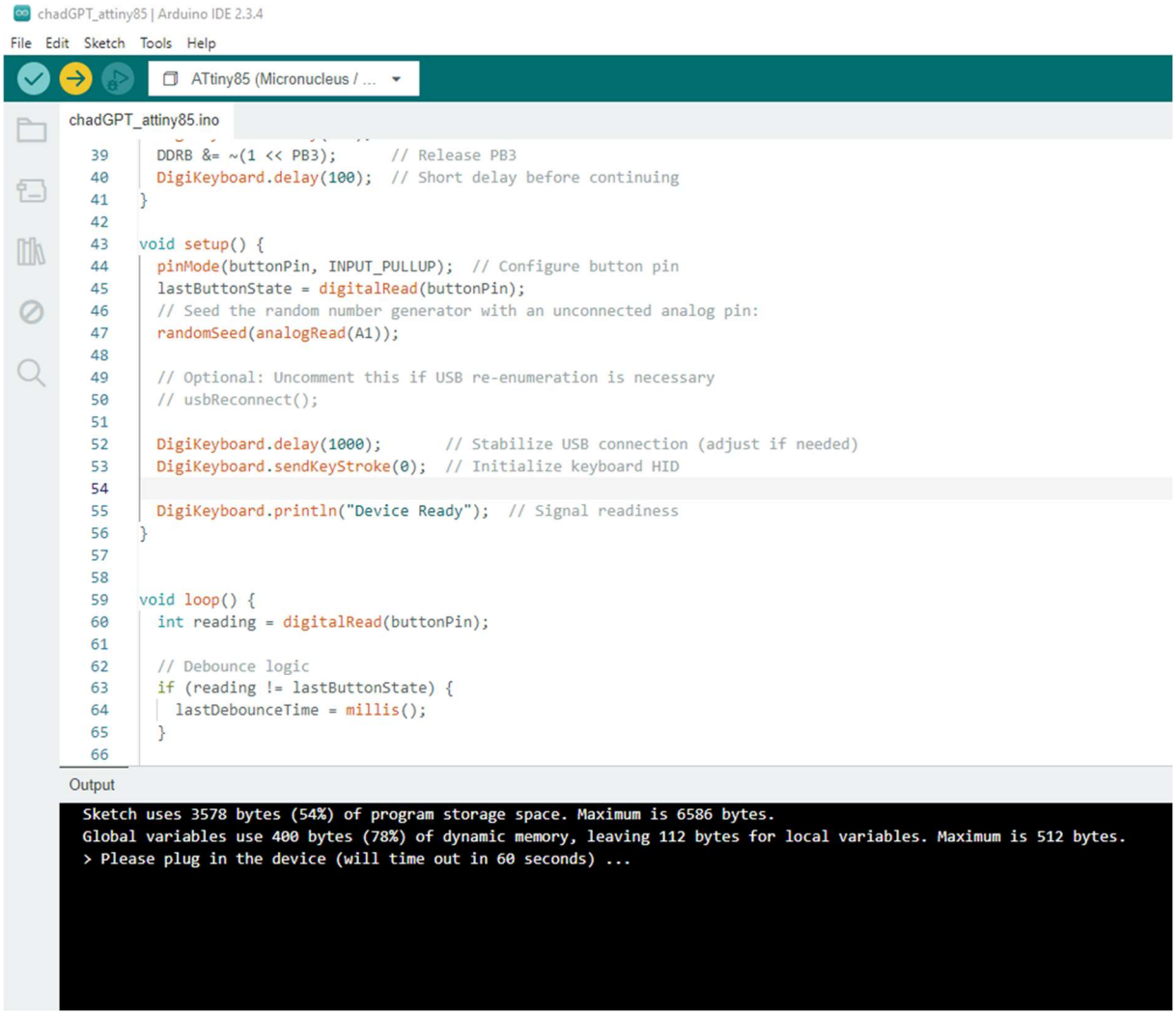
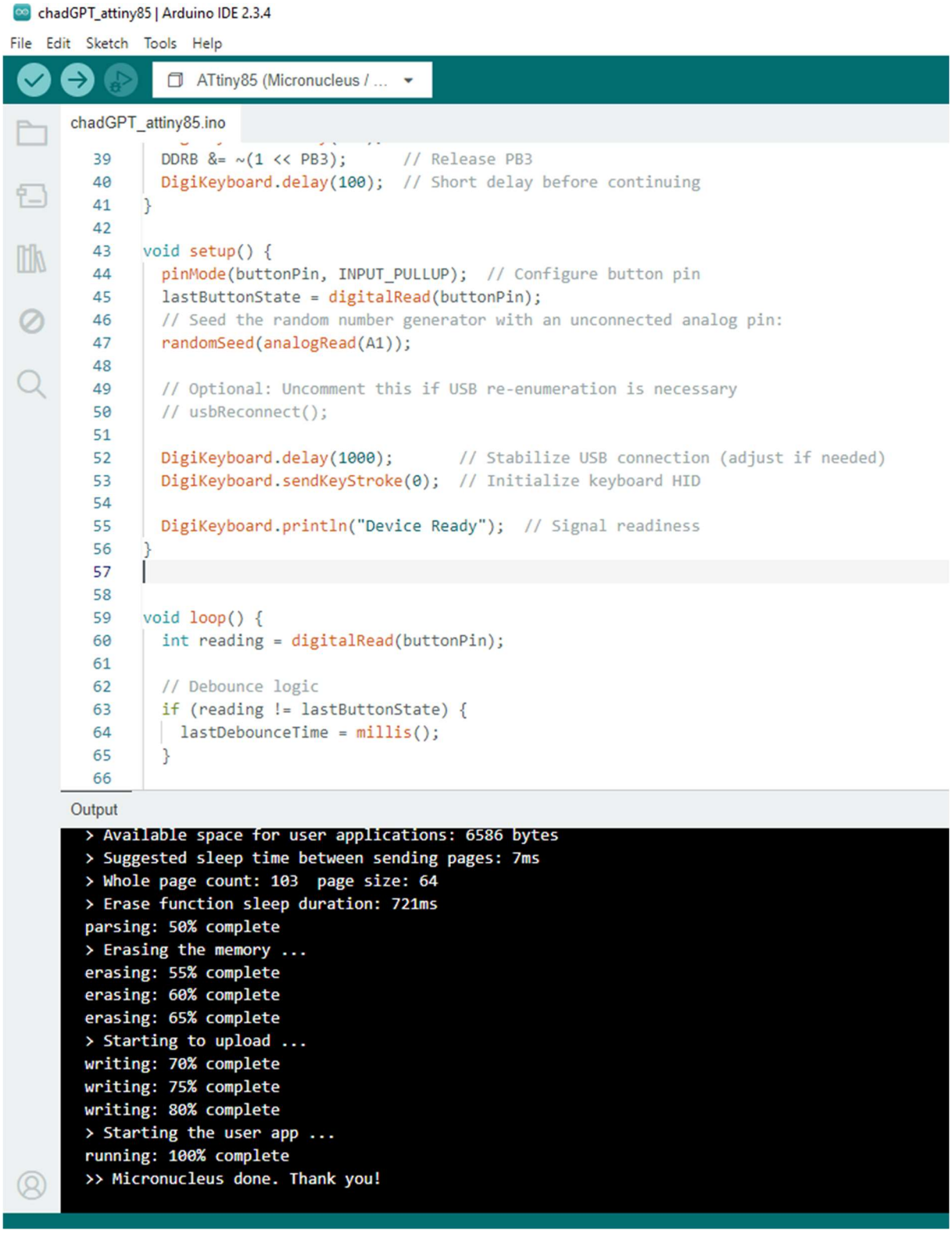
9. Upload the Code to the Digispark

- Click the **Upload (→) button** in the Arduino IDE.
- Wait for the IDE to display a message instructing you to **“Plug in device now…”** or similar.



- Plug your Digispark ATtiny85 board into a USB port.

- The IDE should detect the Digispark and begin the upload process automatically.



Note: Digispark typically has a bootloader that waits a few seconds for an upload upon being powered/plugged in.

10. Wait for “Device Ready”

- After a few seconds, if everything goes correctly, the Arduino will write via USB:

Device ready

- This indicates a successful upload.

Troubleshooting Guide

1. Computer Doesn’t Recognize the Device

- **Check USB Cable**: Ensure you’re using a data-capable micro USB cable (many cables are charge-only).
- **Re-seat the Board**: Confirm the ATtiny85 (Digispark) board is firmly plugged into its USB port or adapter. Try using different USB Ports -> connect directly without any adapters or hubs
- **Install Drivers**: For some operating systems, you may need additional drivers (e.g., Digistump drivers on Windows).

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2. No Response or Keystrokes

- **Verify Wiring**: Make sure the keyboard switch wires are correctly soldered (one to GND, one to PB0).
- **Inspect Solder Joints**: Cold or weak solder joints can break the connection; reflow if necessary.
- **Confirm Firmware**: Double-check you’ve uploaded the correct .ino file and selected the right board in your IDE.

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3. Wrong Characters or Key Layout

- **Keyboard Layout Definition**: In the .ino file, ensure you’ve commented out the correct layout line, e.g.:
    - #define KEYBOARD_LAYOUT_GERMAN
    - // #define KEYBOARD_LAYOUT_ENGLISH
      Switch them if you need English instead of German (or vice versa).
- **OS Keyboard Settings**: Verify your computer’s language/keyboard input settings aren’t overriding the device’s output.

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4. “Device Ready” Message Never Appears

- **Re-flash Firmware**: The upload may have failed. Try flashing again.
- **Power Cycle**: Unplug the device, wait a few seconds, then plug it back in.

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5. Button Feels Stuck or Doesn’t Spring Back

- **3D-Printed Springs**: Make sure the springs are inserted correctly and are not obstructed.
- **Alignment**: Check that the button aligns properly with the housing (watch for cable notches).
- **Glue Overuse**: Excess glue can restrict movement. Clean up any excess if necessary.

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6. Other Unlisted Problems

- **Review the PDF**: Refer to the detailed documentation for more in-depth steps.
- **Check GitHub Issues**: See if others have encountered the same problem; solutions might already be posted.
- **Ask the Community**: If all else fails, open a GitHub issue or seek help on relevant forums.