



# **Loadupch**

*Release 0.0.1*

**Unit Electronics**

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The Loadupch is a software dedicated to up loader firmware to CH552 microcontroller. The software is written in Python and uses the PyUSB library to communicate with the device.

This documentation is divided into the following sections:



## INTRODUCTION

The Loadupch is a implementation of a loader of Stefan Wagner for CH552 microcontroller. Compatible with a flash of file Makefile. The project originally was written for Linux, but it is possible to run on Windows. The software is written in Python and uses the PyUSB library to communicate with the device.

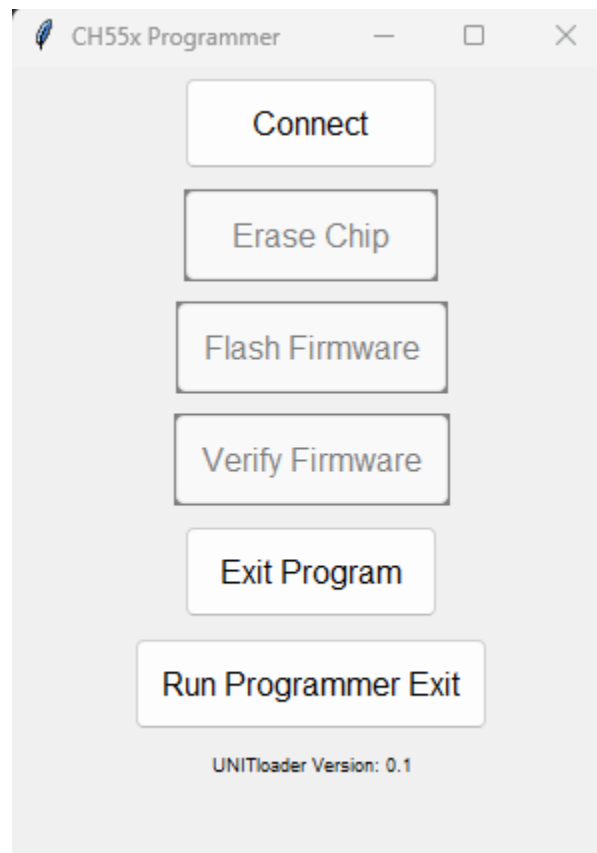


Fig. 1.1: Loadupch interface

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**Tip:** Compared to the original project, the Loadupch has a graphical interface and is more user-friendly.

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## INSTALLATION

**Warning:** The Loadupch is a project under development. The software is not stable and may have bugs.

### 2.1 Requirements

The Loadupch requires the following software:

- Python 3.6 or higher

The Loadupch requires the following libraries:

```
pip install pyusb
```

```
pip install tkinter
```

### 2.2 Loadupch Installation

For easy installation, you can use the following command:

```
pip install loadupch
```

If you use Linux, you may need to install the following packages:

```
sudo apt-get install libusb-1.0-0-dev libudev-dev
```

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**Note:** For more information, you can check the documentation [Documentation for Compiled examples](#) on the section CH55x with SDCC and Ubuntu

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## 2.3 Usage

To use the Loadupch, you need to connect the CH552 microcontroller to the USB port of your computer. Then, you can run the following command:

```
python -m loadupch
```

The software will open a window with the interface. You can select the device press the “Connect” button.

---

**Note:** Before connect the device, press the “boot” button on the CH552 board.

---

After that, you can select the firmware file and press the “flash firmware” button.

## 2.4 Uninstallation

In the case that software is not useful for you, you can uninstall it using the following command:

```
pip uninstall loadupch
```

## USAGE

To use the Loadupch, you can run the following command:

```
python -m loadupch
```

The software will open a window with the interface. You can select the device press the “Connect” button.

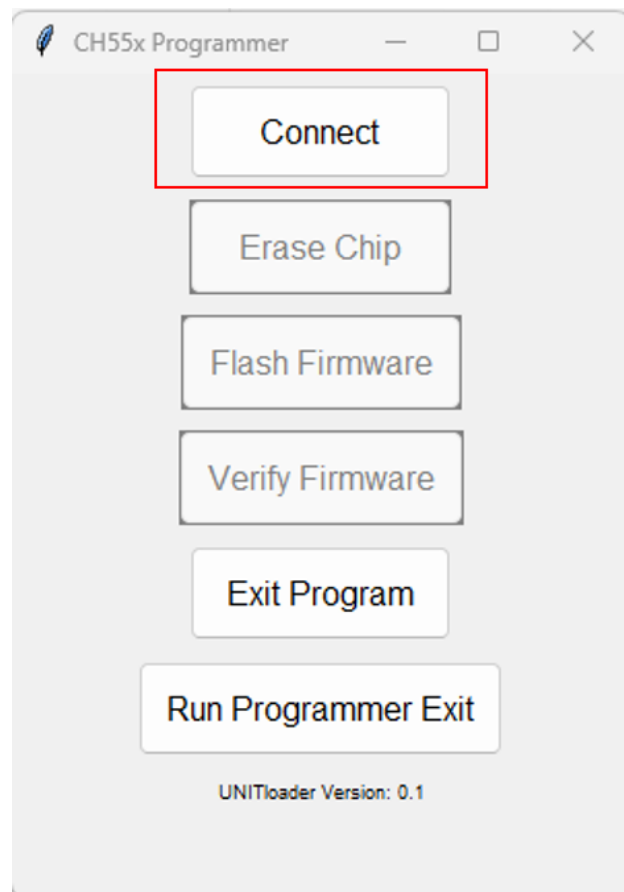


Fig. 3.1: Loadupch interface

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**Note:** Before connect the device, press the “boot” button on the CH552 board.

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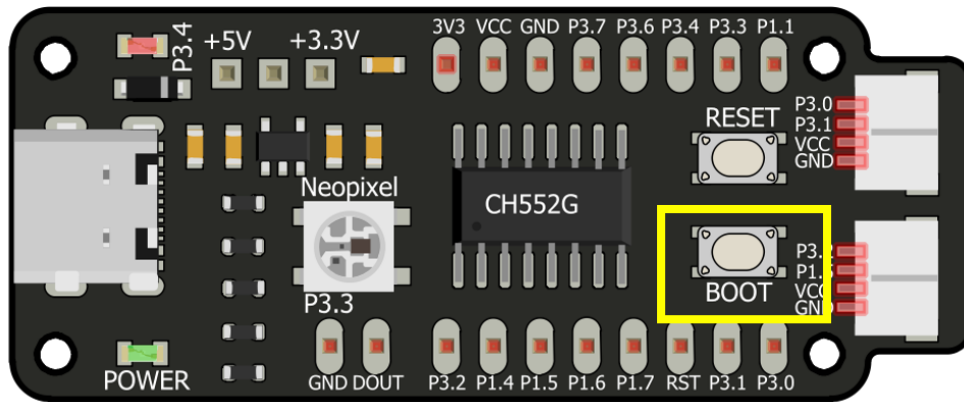


Fig. 3.2: Cocket Nova CH552 button boot

The interface will show the message “Device connected” and you can select the firmware file and press the “flash firmware” button.

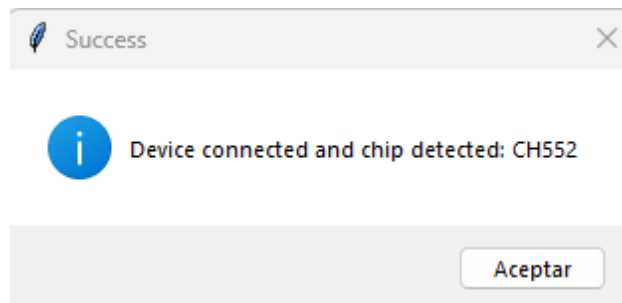


Fig. 3.3: Device found message

## FLASH FIRMWARE

For the up load firmware, press the “flash firmware” button.

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**Note:** Only .bin files are supported.

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Automatically the software open the file dialog, you can select the firmware file and press the “open” button.

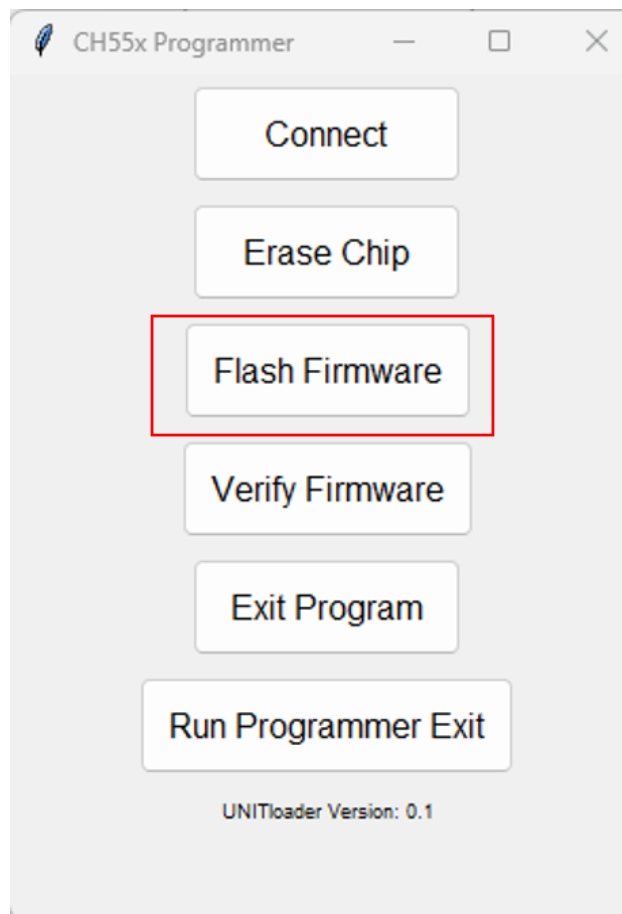


Fig. 4.1: Flash firmware dialog

The software will show the message “Firmware flashed” and the device will be ready to use.

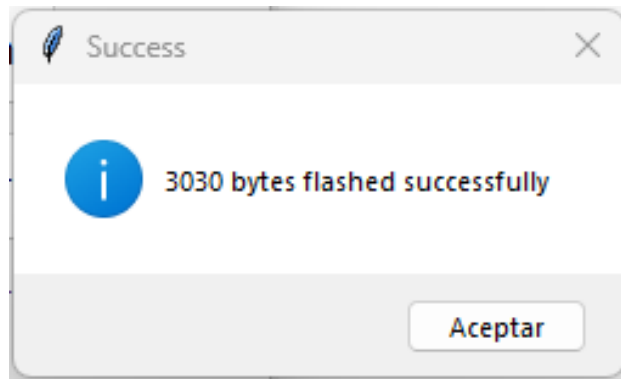


Fig. 4.2: Firmware flashed message

## 4.1 Verify firmware loaded

To verify the firmware loaded, press the “verify firmware” button.



Fig. 4.3: Verify firmware dialog

The software will show the message “Firmware verified” if the firmware is loaded correctly.

## EXAMPLES

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**Note:** There exists a repository with examples for the Cocket Nova CH552 board, which you can find here:

---

This repository provides examples for developing software in C using the SDCC compiler for the CH552 microcontroller. It serves as an excellent resource for both beginners and experienced developers, offering versatile and affordable solutions for CH552 development.

Although the examples are written in C, you can use Loadupch to upload the firmware to the CH552 microcontroller. Loadupch is software dedicated to uploading firmware to the CH552 microcontroller.

Clone the repository and follow the instructions to compile and upload the firmware to the CH552 microcontroller:

### 5.1 Flash Firmware Using Loadupch

To flash the firmware using Loadupch, follow the steps below:

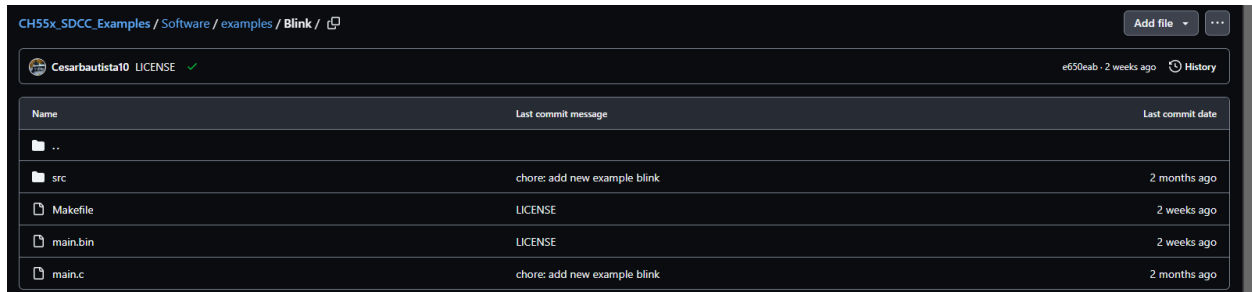
1. Clone the repository with the examples:

```
git clone https://github.com/UNIT-Electronics/CH55x_SDCC_Examples.git
```

2. Open the Loadupch software:

```
python -m loadupch
```

3. Press the `boot` button on the CH552 board and connect the device to the USB port of your computer.
4. Press the `Connect` button on the Loadupch interface.
5. Select the firmware file from the Software/examples/Blink repository and press the `flash firmware` button.
6. The software will show the message `Firmware flashed` and the device will be ready to use.
7. Finally, press the `run programmer Exit` button on the Loadupch interface.



The screenshot shows a GitHub repository interface. At the top, the path 'CH55x\_SDCC\_Examples / Software / examples / Blink' is visible. Below the path, there's a header for 'Cesarbautista10 LICENSE' with a green checkmark. To the right, it says 'e650eab · 2 weeks ago' and a 'History' link. The main content is a table with three columns: 'Name', 'Last commit message', and 'Last commit date'.

Name	Last commit message	Last commit date
..		
src	chore: add new example blink	2 months ago
Makefile	LICENSE	2 weeks ago
main.bin	LICENSE	2 weeks ago
main.c	chore: add new example blink	2 months ago

Fig. 5.1: Path to example blink

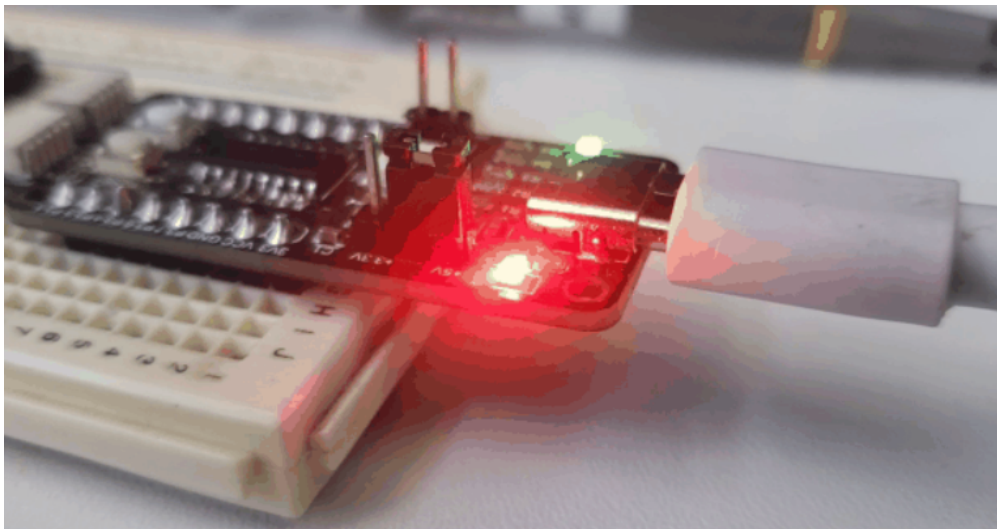


Fig. 5.2: Blink example



## UNPAIRED DEVICE

There are several reasons why the device might not be connected:

- The device is not connected to the USB port.
- The device is not in boot mode.
- The system does not have the necessary permissions to access the device.
- The driver is not installed.

To solve the problem, you can try the following steps:

1. Check if the device is connected to the USB port.
2. Check if the device is in boot mode.
3. Check if the system has the necessary permissions to access the device.

If the problem persists, you can try the following steps:

1. Check if the driver is installed.

Use Zadig to install the driver:

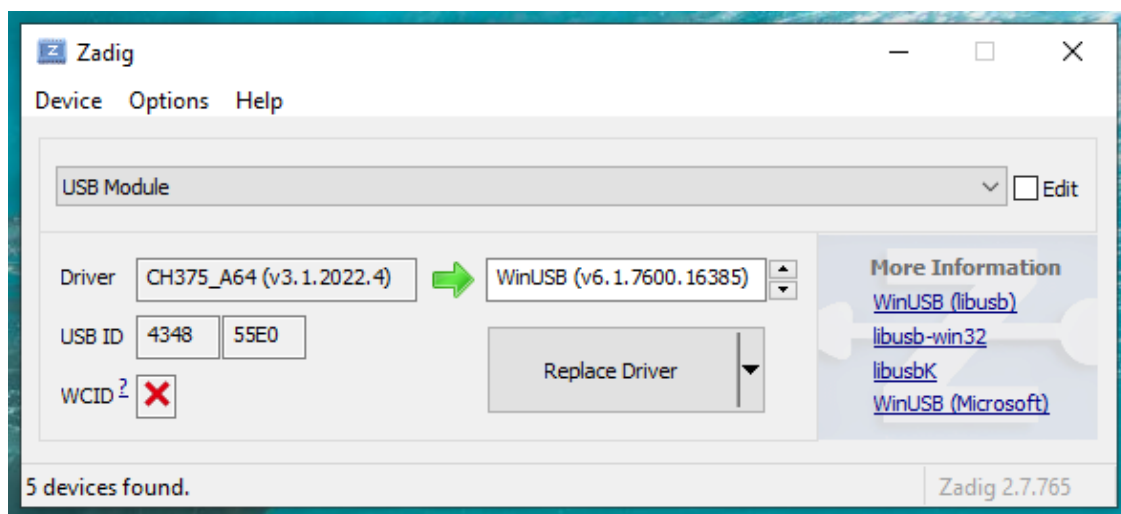


Fig. 6.1: Zadig interface

1. Go to the “Options” menu and select “List All Devices”.
2. Locate the device with USB MODULE VID = 0x4348 and PID = 0x55E0.
3. Select the driver “libusb-win32 (v1.2.6.0)” and press the “Install Driver” button.

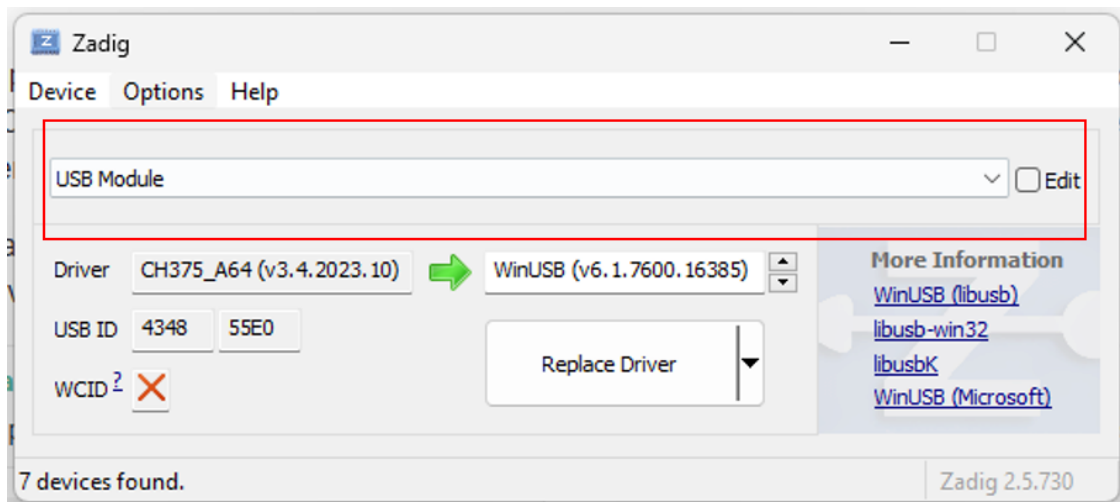


Fig. 6.2: Device selected

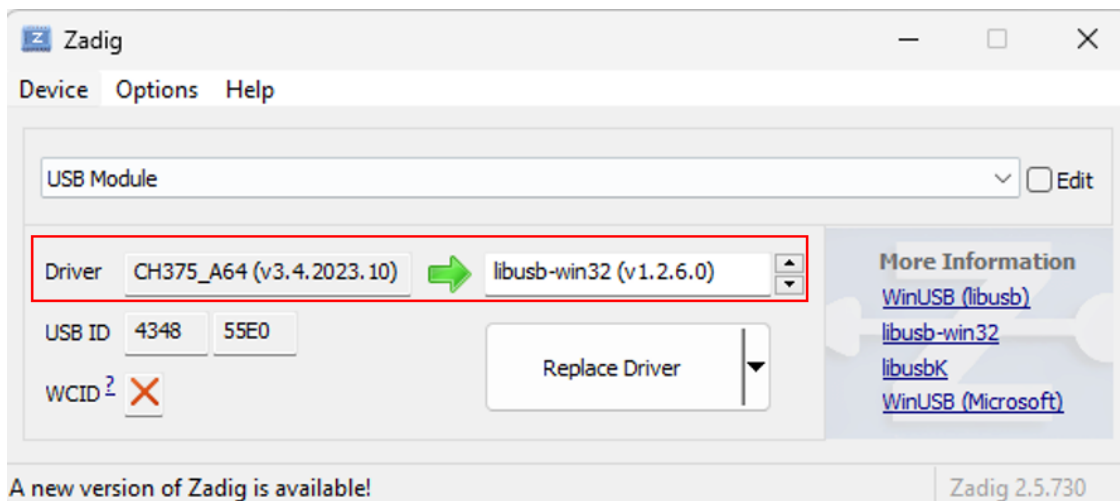


Fig. 6.3: Driver selected

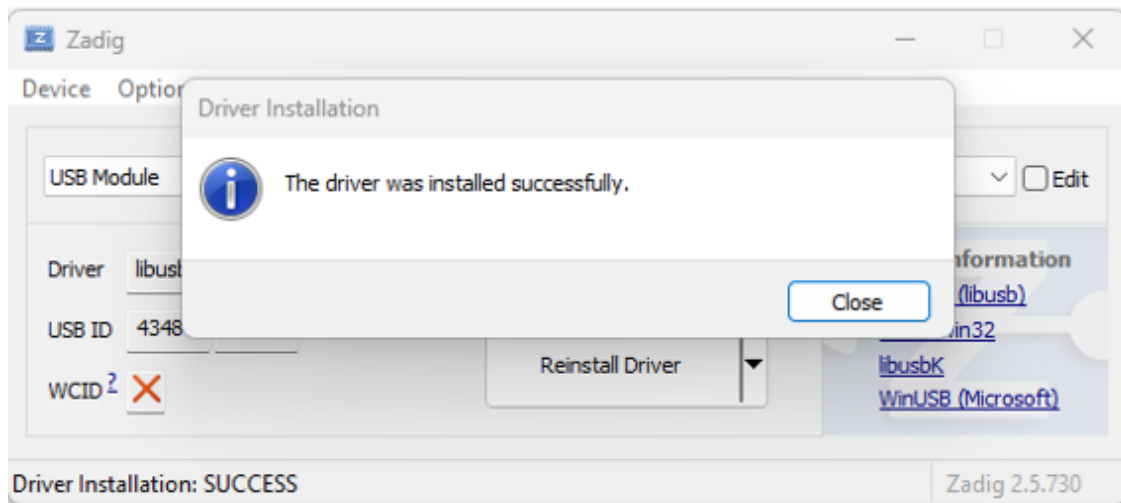


Fig. 6.4: Device installed

After that, the device will be recognized by the system.



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Version 3, 29 June 2007

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```
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```

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