To run first Python program on a **Sipeed Maixduino M1 AI module** you will need to install the appropriate IDE and follow some steps to write and upload your program. Below is a clear guide for installing the IDE, setting up the module, and running a sample program.

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1. Install the IDE: MaixPy IDE

The Maixduino board supports **MicroPython**, and Sipeed has developed a lightweight IDE called **MaixPy IDE**.

Steps to Install MaixPy IDE:

1. **Download the MaixPy IDE:**
    - Go to the official MaixPy IDE GitHub page or download it from the Sipeed website:
        - Download MaixPy IDE (https://dl.sipeed.com/shareURL/MAIX/MaixPy/ide/v0.2.5 --> choose -> maixpy-ide-windows-0.2.5.exe)

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2. Install Drivers for the Maixduino

- Plug your Maixduino board into your computer using a USB cable.
- If the serial port is not recognized, install USB-to-Serial drivers:
    - **For Windows:** Download and install CH340 drivers (commonly used with the Maixduino).
        - CH340 Driver Download

(http://www.wch-ic.com/downloads/CH341SER_EXE.html)

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3. Flash the MicroPython Firmware

To program the Maixduino using Python, you need to load the **MaixPy (MicroPython)** firmware onto the board.

Steps to Flash Firmware:

1. **Download the Latest MaixPy Firmware:**
    - Get the firmware from the Sipeed MaixPy release page:
        - Firmware Releases
    - Download the appropriate `.bin` file for your board.
2. **Install KFlash:**
    - KFlash is the official tool for flashing firmware to Kendryte K210-based boards.
    - Download KFlash from:

      https://github.com/sipeed/kflash_gui/releases

Choose windows version

Then download bin file from https://dl.sipeed.com/shareURL/MAIX/MaixPy/release/master/maixpy_v0.6.3_2_gd8901fd22

--open k flash and upload bin file with flash and the detected port.

- Or Install it via Python (if not pre-installed):

```
bash
Copy code
pip install kflash
```

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4. Connect MaixPy IDE to the Maixduino

1. Open the MaixPy IDE.
2. Select the correct board and **serial port**:

   Go to **Tools selectBoard then choose sipeed maixduino**

   - Go to the **Tools** menu → **Open Serial**.
   - Select your board's COM port (e.g., `COM3` or `/dev/ttyUSB0`).
