

\*\*\*\*\*Default\*\*\*\*\*

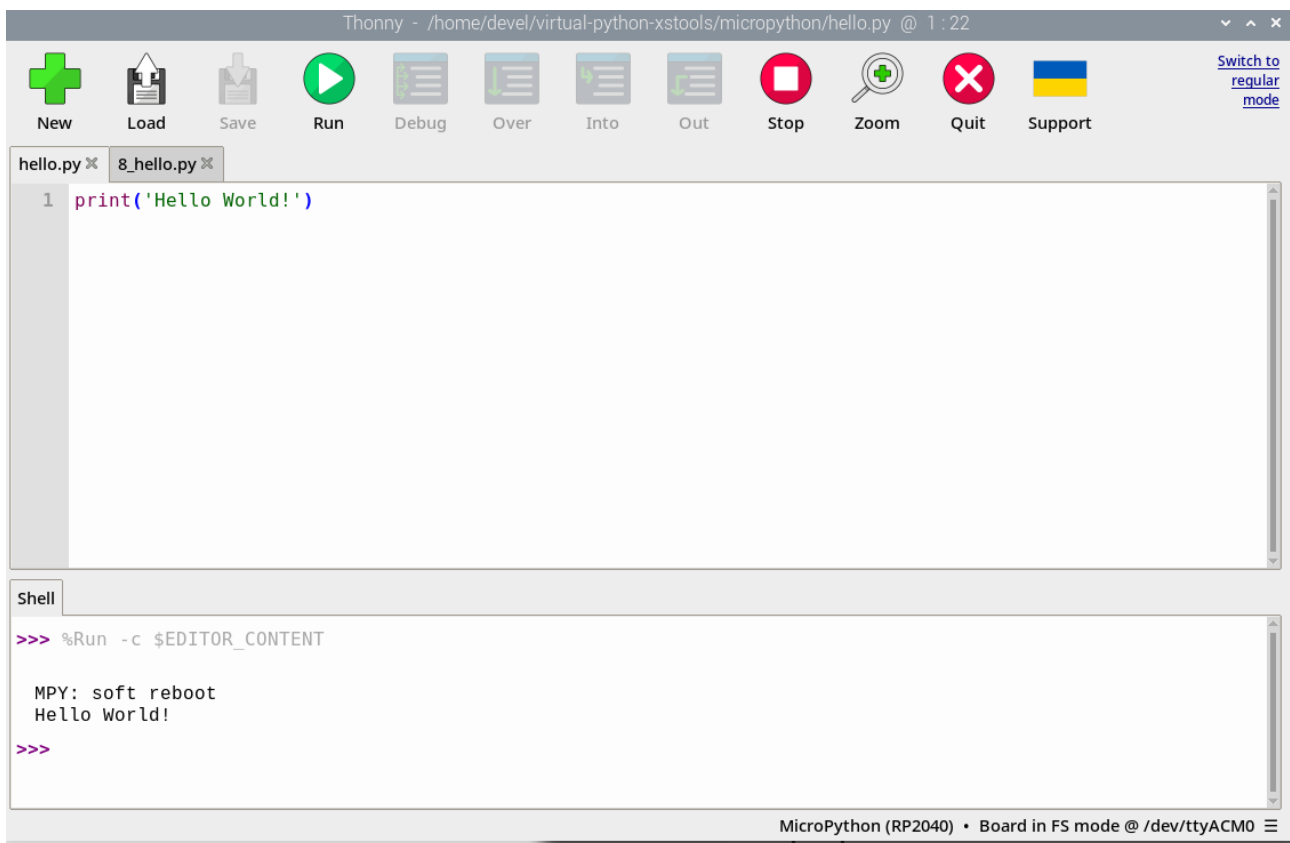
## MicroPython Pico 11/08

/24

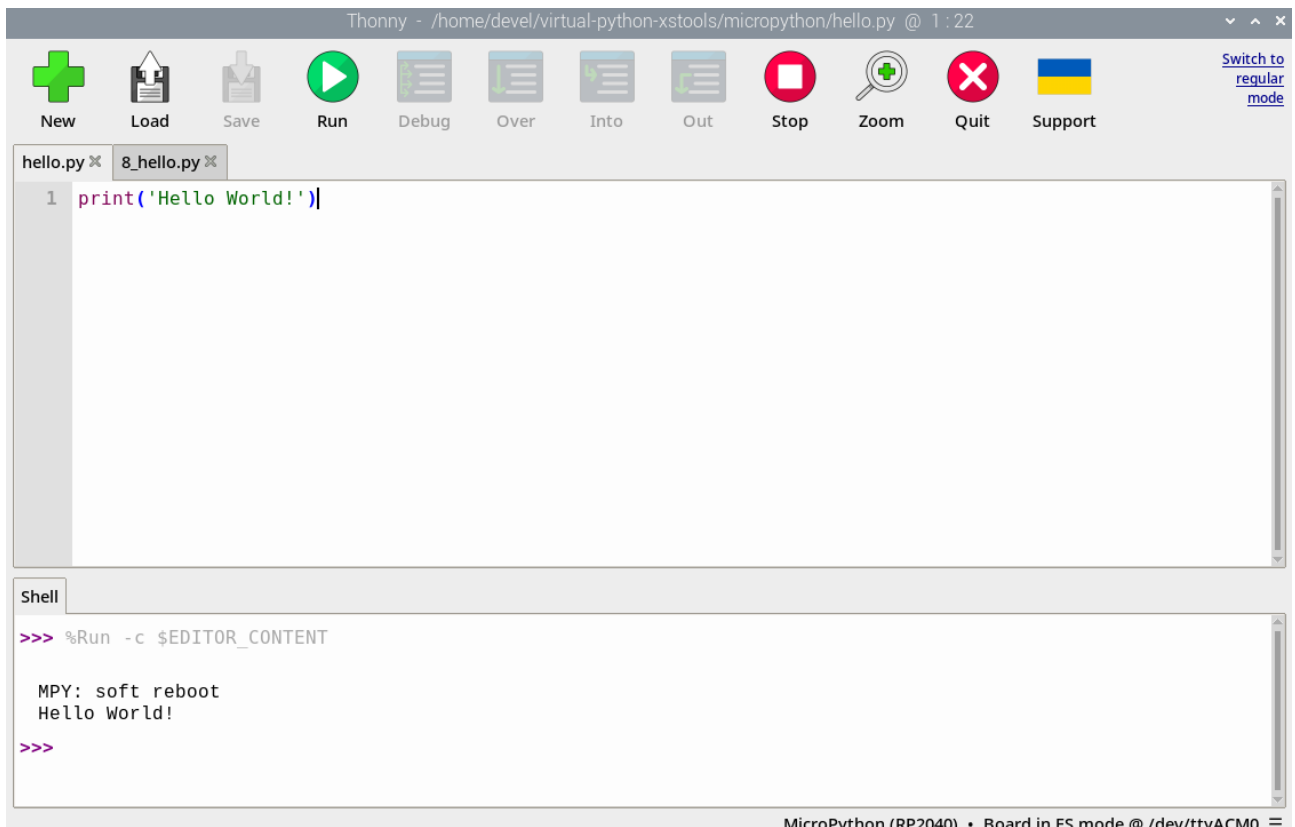
\*\*\*\*\*Default\*\*\*\*\*

Copied “RPI\_PICO-20241025-v1.24.0.uf2” to Raspberry Pico.

Created first MicroPython program hello.py



Running MicroPython program hello.py



The screenshot shows the Thonny IDE interface. The title bar reads "Thonny - /home/devel/virtual-python-xstools/micropython/hello.py @ 1:22". The toolbar includes icons for New, Load, Save, Run, Debug, Over, Into, Out, Stop, Zoom, Quit, and Support. The file explorer shows "hello.py" and "8\_hello.py". The editor window displays a single line of code: `1 print('Hello World!')`. The Shell window shows the command `>>> %Run -c $EDITOR_CONTENT` and the output: `MPY: soft reboot` followed by `Hello World!`. The status bar at the bottom indicates "MicroPython (RP2040) • Board in FS mode @ /dev/ttyACM0".

```
Thonny - /home/devel/virtual-python-xstools/micropython/hello.py @ 1:22
```

New Load Save Run Debug Over Into Out Stop Zoom Quit Support

hello.py 8\_hello.py

```
1 print('Hello World!')
```

Shell

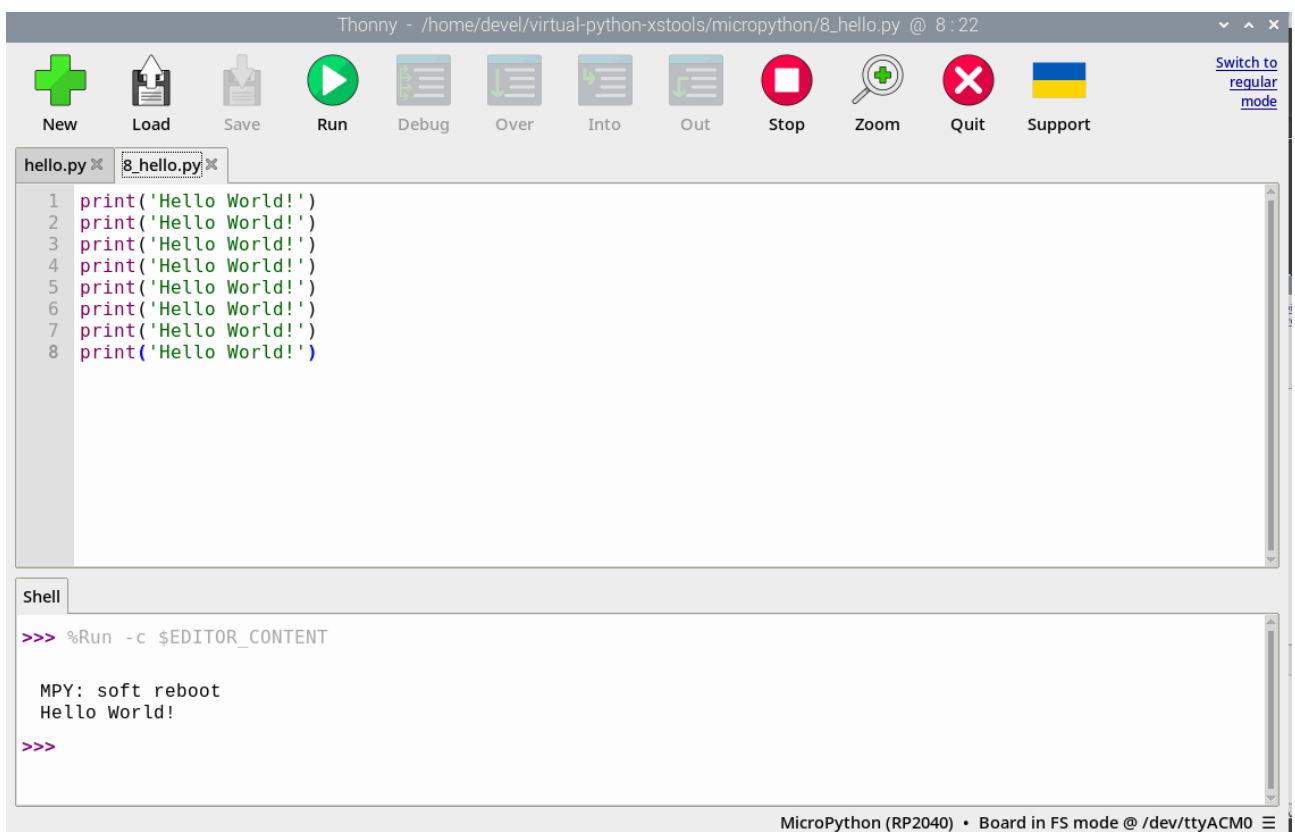
```
>>> %Run -c $EDITOR_CONTENT
```

```
MPY: soft reboot
Hello World!
```

```
>>>
```

MicroPython (RP2040) • Board in FS mode @ /dev/ttyACM0

Modified MicroPython program hello.py 8\_hello.py.



The screenshot shows the Thonny IDE interface. The title bar reads "Thonny - /home/devel/virtual-python-xstools/micropython/8\_hello.py @ 8:22". The toolbar is the same as the previous screenshot. The file explorer shows "hello.py" and "8\_hello.py". The editor window displays eight lines of code, all `print('Hello World!')`. The Shell window shows the command `>>> %Run -c $EDITOR_CONTENT` and the output: `MPY: soft reboot` followed by `Hello World!`. The status bar at the bottom indicates "MicroPython (RP2040) • Board in FS mode @ /dev/ttyACM0".

```
Thonny - /home/devel/virtual-python-xstools/micropython/8_hello.py @ 8:22
```

New Load Save Run Debug Over Into Out Stop Zoom Quit Support

hello.py 8\_hello.py

```
1 print('Hello World!')
2 print('Hello World!')
3 print('Hello World!')
4 print('Hello World!')
5 print('Hello World!')
6 print('Hello World!')
7 print('Hello World!')
8 print('Hello World!')
```

Shell

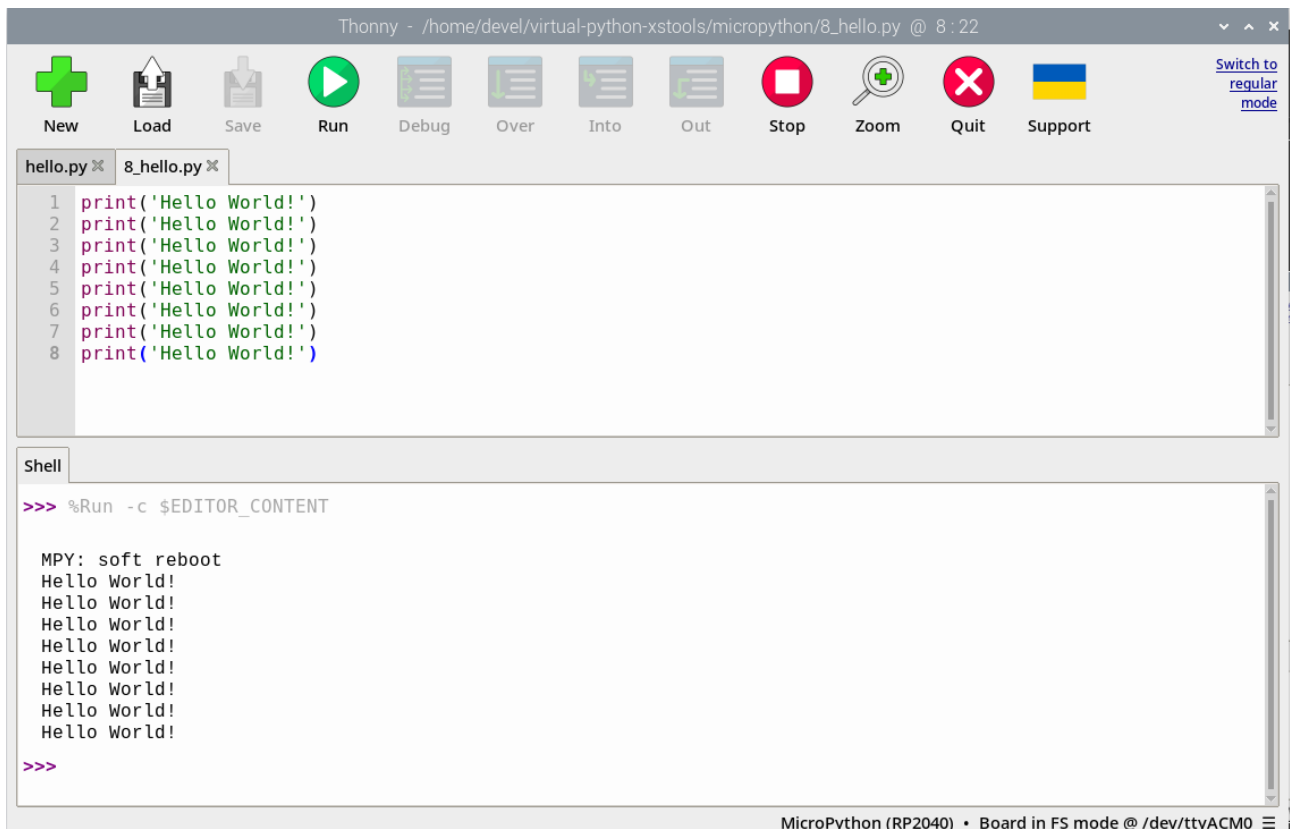
```
>>> %Run -c $EDITOR_CONTENT
```

```
MPY: soft reboot
Hello World!
```

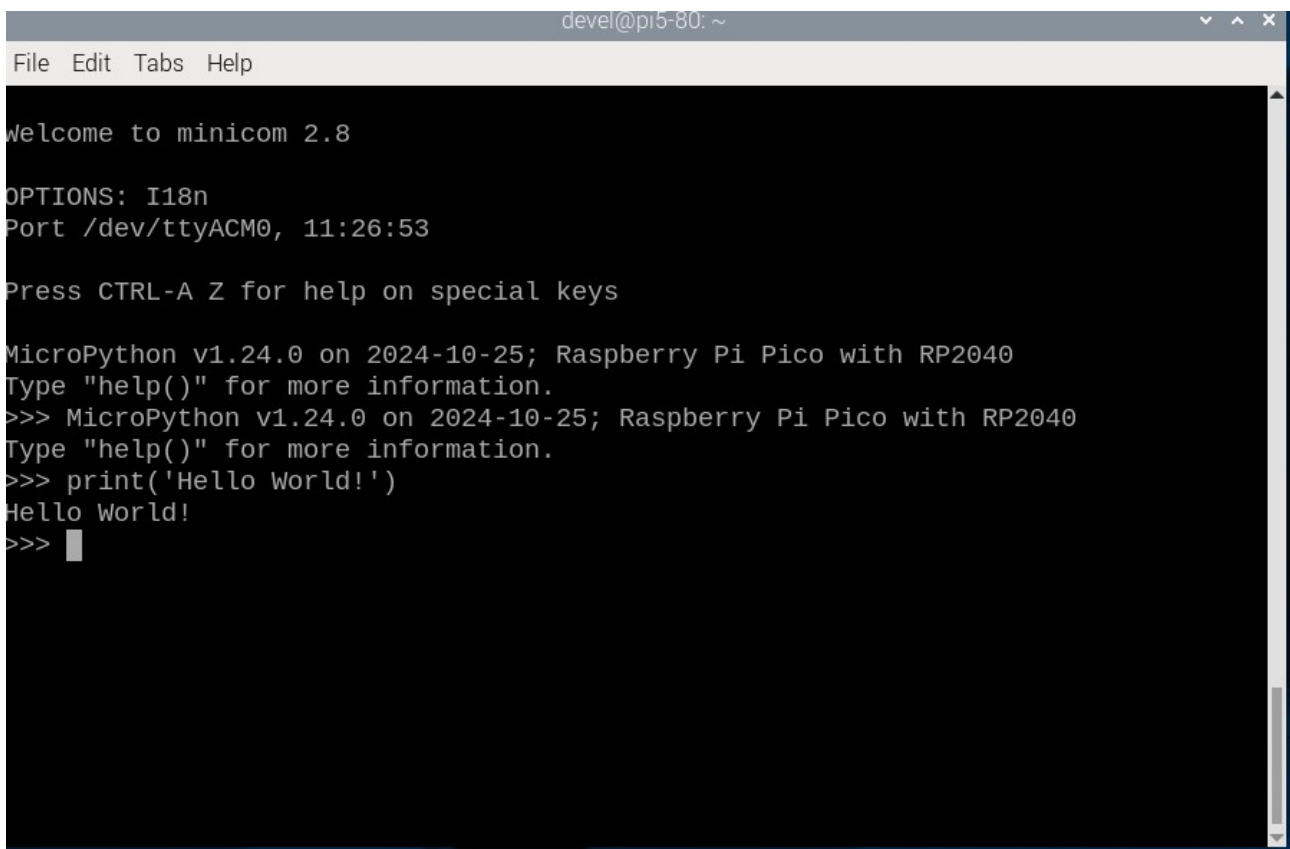
```
>>>
```

MicroPython (RP2040) • Board in FS mode @ /dev/ttyACM0

Running MicroPython 8\_hello.py



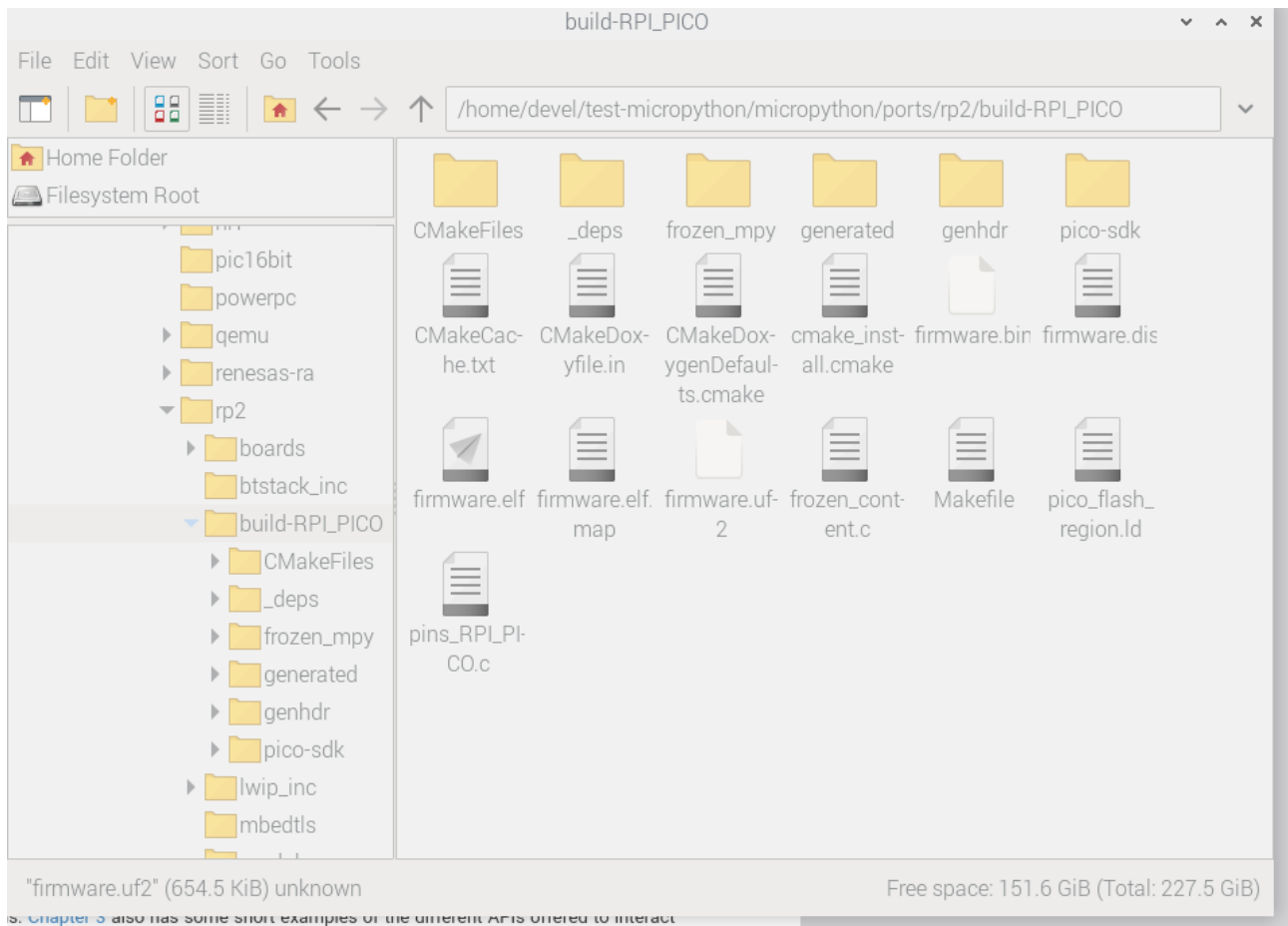
Up to now no imports required.



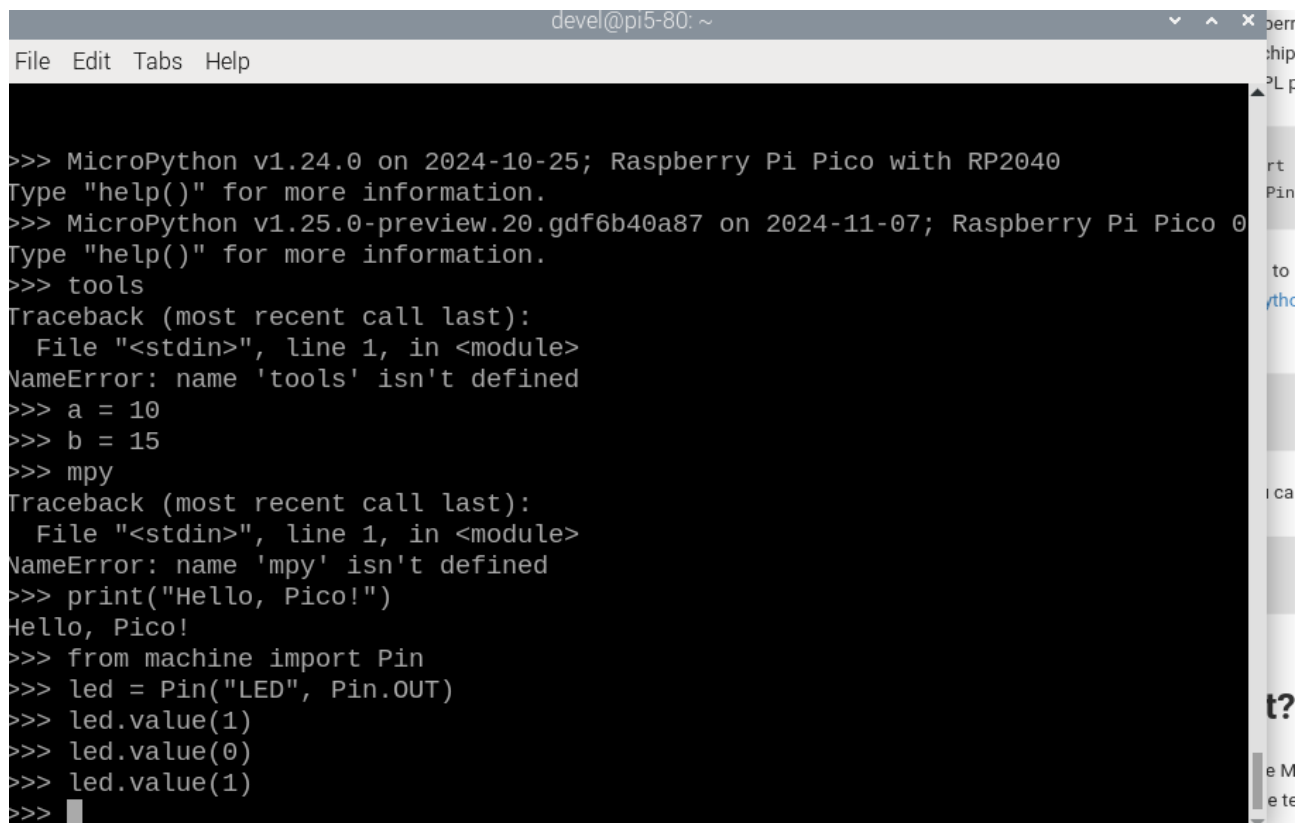
Testing using minicom

```
devel@pi5-80: ~
File Edit Tabs Help
>>>
>>>
>>>
>>>
>>>
>>>
>>>
>>>
>>>
>>>
>>>
>>>
>>>
>>>
>>> a = 10
>>> b = 15
>>> c = a + b
>>> d = b/a
>>> print (d)
1.5
>>> print (c)
25
>>>
```

MicroPython variables and simple math.



## Built firmware



```
devel@pi5-80: ~
File Edit Tabs Help

>>> MicroPython v1.24.0 on 2024-10-25; Raspberry Pi Pico with RP2040
Type "help()" for more information.
>>> MicroPython v1.25.0-preview.20.gdf6b40a87 on 2024-11-07; Raspberry Pi Pico 0
Type "help()" for more information.
>>> tools
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
NameError: name 'tools' isn't defined
>>> a = 10
>>> b = 15
>>> mpy
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
NameError: name 'mpy' isn't defined
>>> print("Hello, Pico!")
Hello, Pico!
>>> from machine import Pin
>>> led = Pin("LED", Pin.OUT)
>>> led.value(1)
>>> led.value(0)
>>> led.value(1)
>>>
```

Led on pico on/off

Need to learn about RPEL

A REPL, or Read-Eval-Print Loop, is :

```
devel@pi5-80: ~  
File Edit Tabs Help  
Welcome to minicom 2.8  
OPTIONS: I18n  
Port /dev/ttyACM0, 18:16:37  
Press CTRL-A Z for help on special keys  
MicroPython v1.25.0-preview.20.gdf6b40a87 on 2024-11-07; Raspberry Pi Pico with0  
Type "help()" for more information.  
>>>  
>>> from machine import Pin, Timer  
>>> led = Pin("LED", Pin.OUT)  
>>> tim = Timer()  
>>> def tick(timer):  
...     global led  
...     led.toggle()  
...  
>>> tim.init(freq=2.5, mode=Timer.PERIODIC, callback=tick)  
>>> █
```

Now the led blinks