

Programming with Python 3

Introduction

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All
about
this
section

All about Thonny IDE

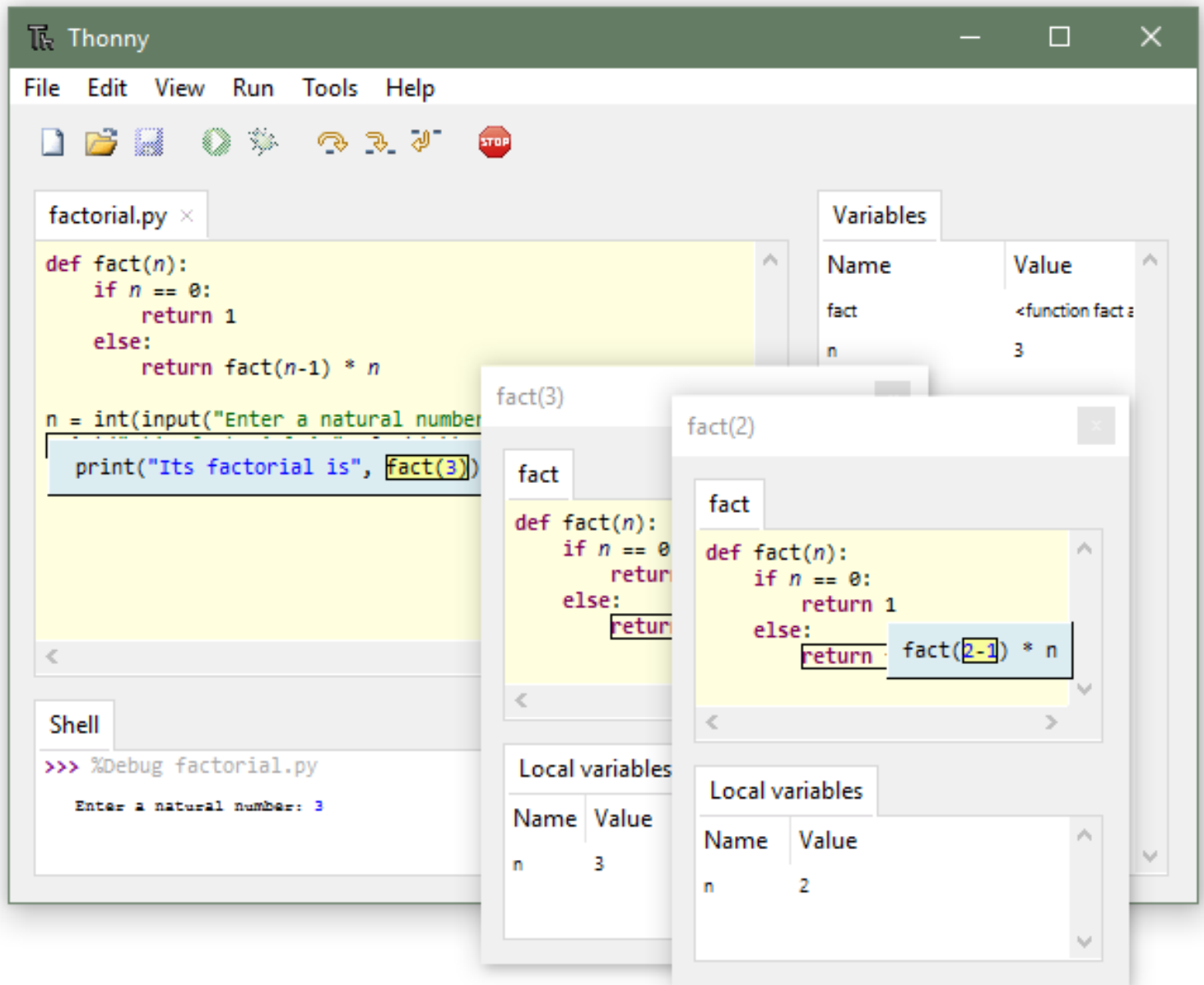
Variables, Data types

Functions and Operators

Conditions , Loops and Lists

Lets get started ...

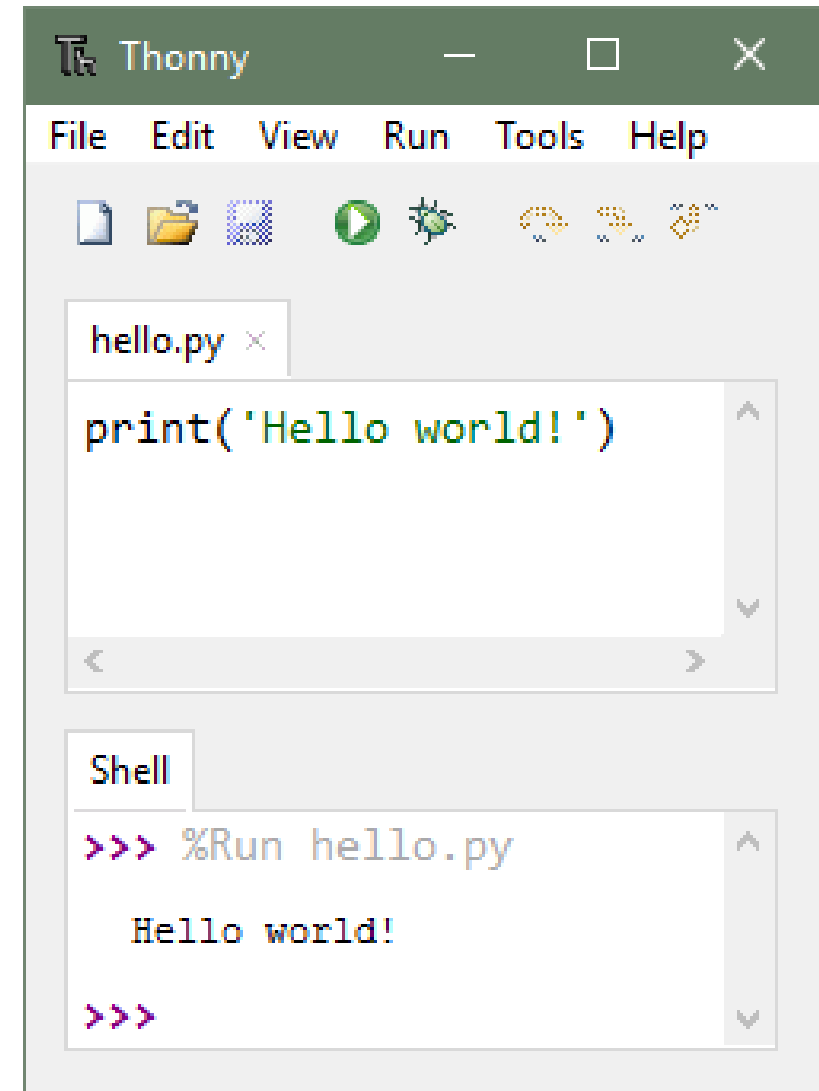
Thonny IDE



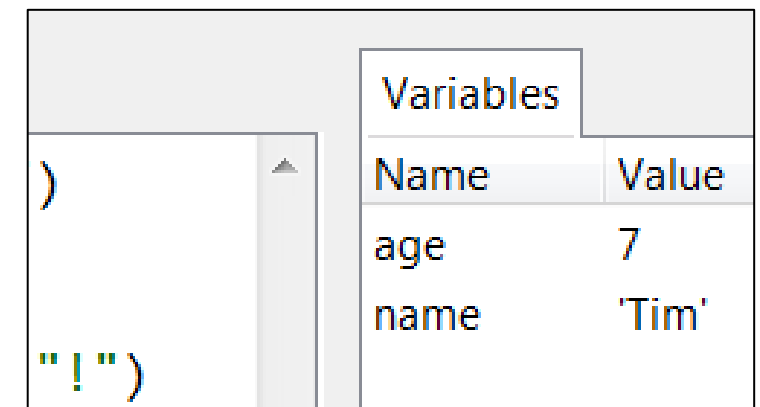
Thonny IDE

Python IDE for beginners

- Thonny comes with Python 3.7 built in.
- We can also use a separate Python installation, if necessary.
- The initial user interface is stripped of all features



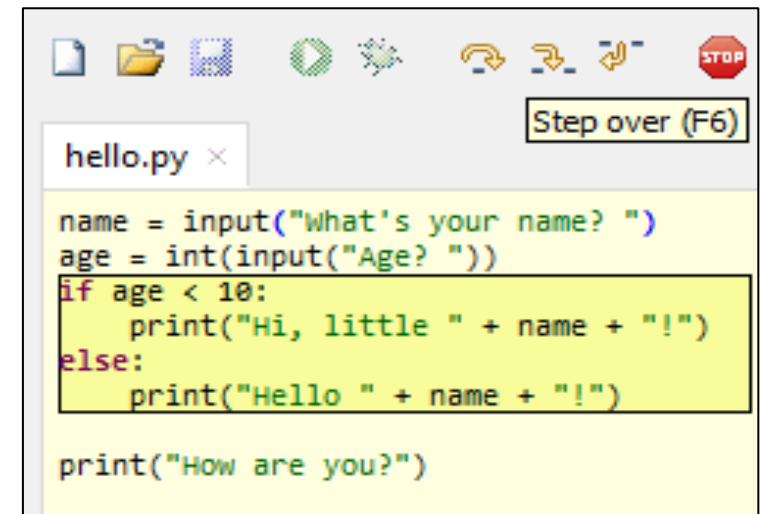
- ▶ **Select *View* → *Variables***
 - Watch how your programs and shell commands affect Python variables.



A screenshot of a code editor interface. On the left, a portion of a Python script is visible, showing a closing parenthesis and a string literal. On the right, a 'Variables' panel is open, displaying a table of current variables.

Name	Value
age	7
name	'Tim'

- ▶ **press Ctrl+F5**
 - To run your programs step-by-step, no breakpoints needed.
 - Press F6 for a big step and F7 for a small step. Steps follow program structure, not just code lines.

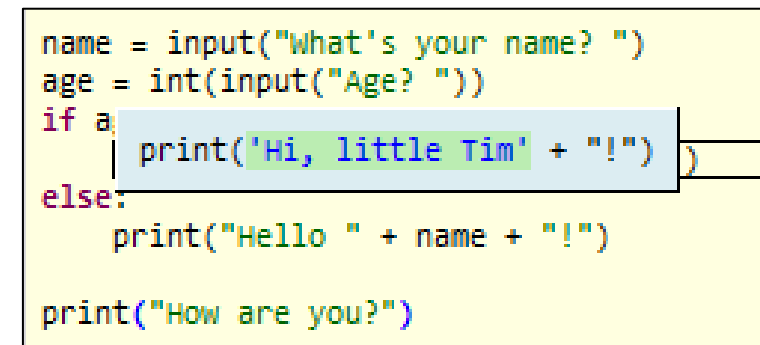


A screenshot of a code editor showing a Python script. The script prompts for a name and age, then uses an if-else statement to greet the user. A 'Step over (F6)' button is visible in the top right corner of the editor window.

```
hello.py x
name = input("What's your name? ")
age = int(input("Age? "))
if age < 10:
    print("Hi, little " + name + "!")
else:
    print("Hello " + name + "!")

print("How are you?")
```

- ▶ **Step through expression evaluation**
 - Use small steps to see how Python evaluates your expressions.

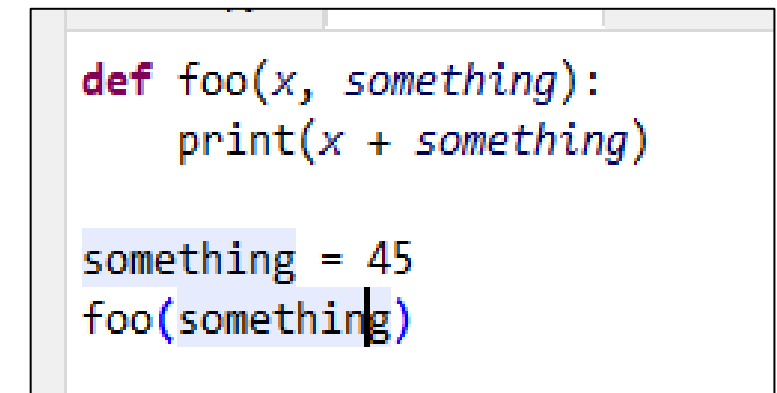
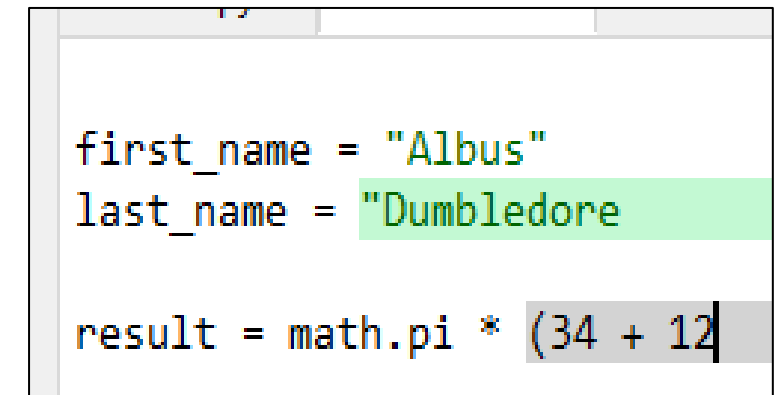
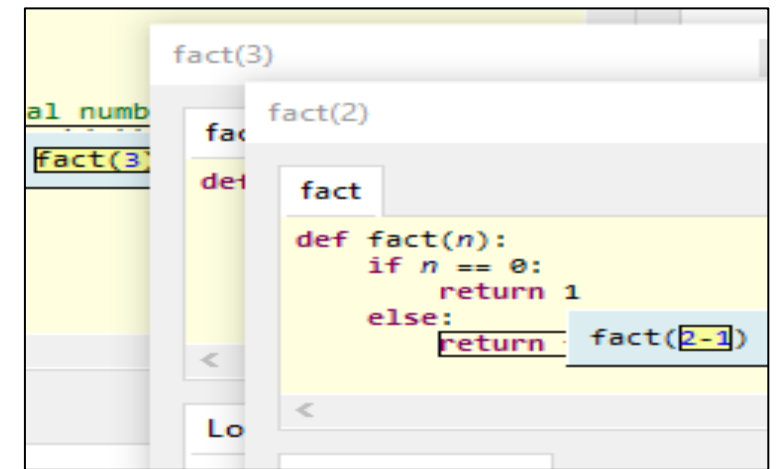


A screenshot of a code editor showing the same Python script as the previous image. The line `print('Hi, little Tim' + "!")` is highlighted, indicating it is the current step in the execution process.

```
name = input("What's your name? ")
age = int(input("Age? "))
if a: print('Hi, little Tim' + "!")
else: print("Hello " + name + "!")

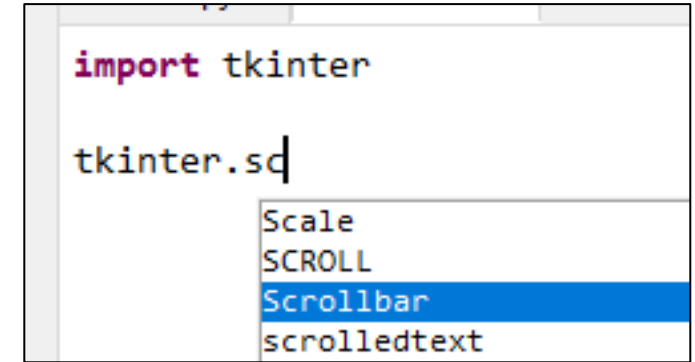
print("How are you?")
```

- ▶ **Stepping into a function call**
 - Opens a new window with separate local variables table and code pointer.
- ▶ **Highlights syntax errors**
 - Unclosed quotes and parentheses are the most common syntax errors. Thonny's editor makes these easy to spot.
- ▶ **Explains scopes.**
 - Highlighting variable occurrences i.e. local variables are visually distinguished from globals .



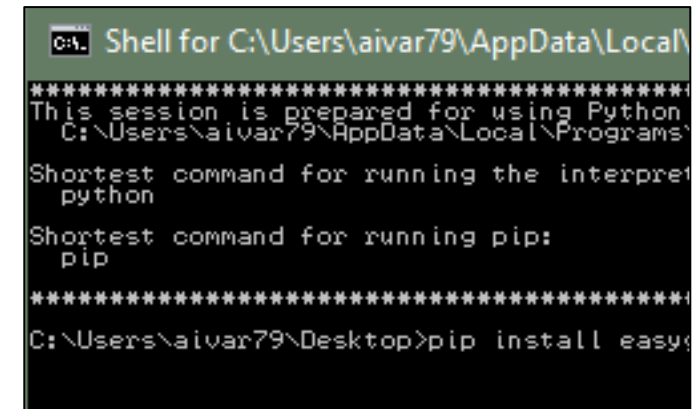
▷ **Code completion.**

- We can explore APIs with the help of code completion.



▷ **Beginner friendly system shell.**

- Select *Tools* → *Open system shell* to install extra packages
- Or learn handling Python on command line.



▷ **Simple and clean pip GUI.**

- Select *Tools* → *Manage packages* for even easier installation of 3rd party packages.

