

**RECONNUE PAR L'ÉTAT**

# **PYTHON**

## **SÉANCE NUM 1**



Enseignant : GHANEM

# Plan de la Séance 1 : Introduction et Premiers Pas en Python

## Sommaire :

- Qu'est-ce que la programmation ?
- Langage interprété vs langage compilé
- Découverte de Google Colab
- Installation de Python
- Python Console
- Python IDLE
- Premiers programmes avec print, variables et input
- Les commentaires en Python

# Qu'est-ce que la programmation ?

- La programmation consiste à donner des instructions à un ordinateur
- Un programme est une suite d'instructions logiques
- Le code source est écrit dans un langage de programmation
- L'ordinateur exécute ces instructions séquentiellement
- Analogie : une recette de cuisine pour un ordinateur

# Langages interprétés vs compilés

## Qu'est-ce qu'un langage interprété ?

- Un langage interprété est exécuté ligne par ligne par un interpréteur
- Le code source est traduit en instructions machine à la volée
- Aucune étape de compilation séparée n'est nécessaire
- L'interpréteur lit, analyse et exécute directement le code
- Exemples : Python, JavaScript, Ruby, PHP

## Avantages :

- Portabilité (même code sur différentes plateformes)
- Développement plus rapide (test immédiat)
- Debuggage facilité

## Inconvénients :

- Performance généralement inférieure aux langages compilés
- Nécessite l'installation de l'interpréteur

# Langages interprétés vs compilés

## Qu'est-ce qu'un langage compilé ?

- Un langage compilé nécessite une transformation du code source en code machine
- La compilation crée un fichier exécutable binaire autonome
- Cette étape est effectuée avant l'exécution du programme
- Le compilateur analyse tout le code en une seule fois
- Exemples : C, C++, Rust, Go, Swift

### Avantages :

- Performance optimisée (exécution directe par le processeur)
- Pas besoin d'environnement d'exécution supplémentaire
- Détection des erreurs avant l'exécution

### Inconvénients :

- Compilation nécessaire après chaque modification
- Code spécifique à chaque plateforme (OS, architecture)
- Débogage plus complexe

# Langages interprétés vs compilés

Tableau comparatif :

Langages Compilés	Langages Interprétés	Mixte (Compilé + Interprété)
C, C++	Python, JavaScript	Java, C#
Rust, Go	Ruby, PHP	Scala, Kotlin

# Qu'est-ce qu'un bytecode ?

- Code intermédiaire entre le code source et le code machine
- Représentation binaire compacte du programme
- Non exécutable directement par le processeur
- Nécessite une machine virtuelle pour être interprété
- Plus abstrait que le code machine, plus concret que le code source

## Caractéristiques :

- Portable entre différentes plateformes
- Plus rapide à interpréter que le code source
- Généré lors de la première exécution du programme

## Exemples :

- Python → .pyc files (Python bytecode)
- Java → .class files (Java bytecode)
- .NET → CIL (Common Intermediate Language)

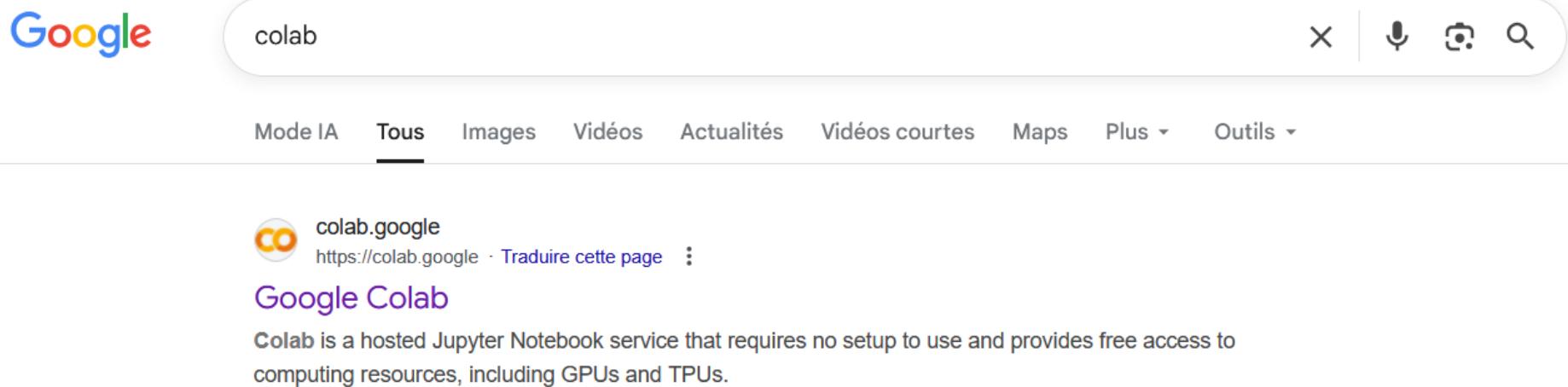
# Python - Langage interprété

- Python est principalement interprété
- Compilation en bytecode transparente
- Avantage : portabilité et simplicité
- Inconvénient : performance moindre que les langages compilés
- Machine Virtuelle Python (PVM) exécute le bytecode

# Google Colab – Introduction

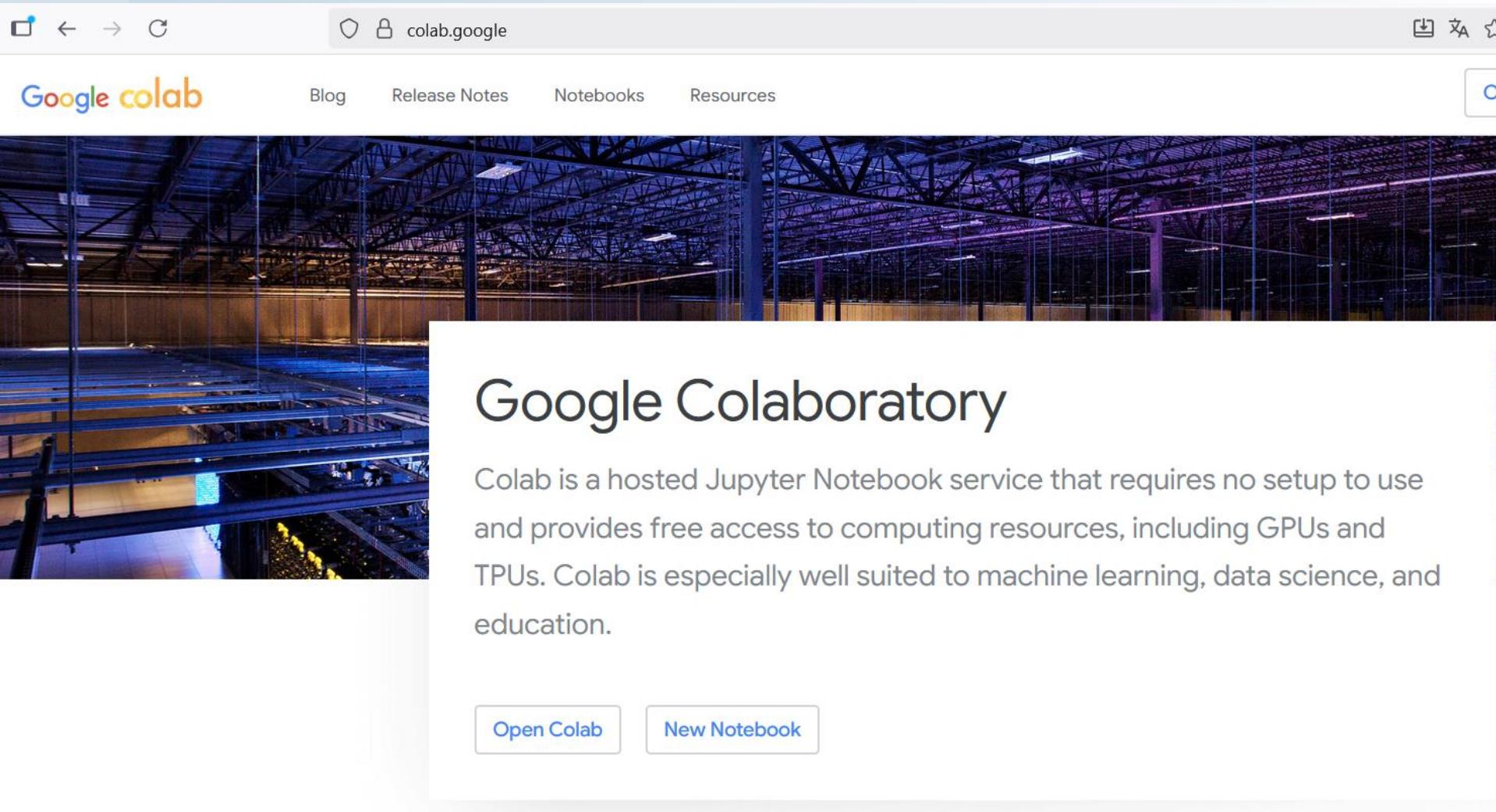
- Environnement de développement en ligne
- Nécessite seulement un navigateur web
- Idéal pour débuter sans installation
- Basé sur Jupyter Notebooks

(cherchez sur google le mot : Colab)



A screenshot of a Google search results page. The search bar at the top contains the query "colab". Below the search bar, there are several filter options: "Mode IA", "Tous" (which is underlined), "Images", "Vidéos", "Actualités", "Vidéos courtes", "Maps", "Plus", and "Outils". The first search result is for "colab.google", showing the URL <https://colab.google> and a "Traduire cette page" link. To the right of the URL are three vertical dots. Below this result, the text "Google Colab" is displayed in purple, which is a link. A brief description follows: "Colab is a hosted Jupyter Notebook service that requires no setup to use and provides free access to computing resources, including GPUs and TPUs."

# Ouvrez le premier site :



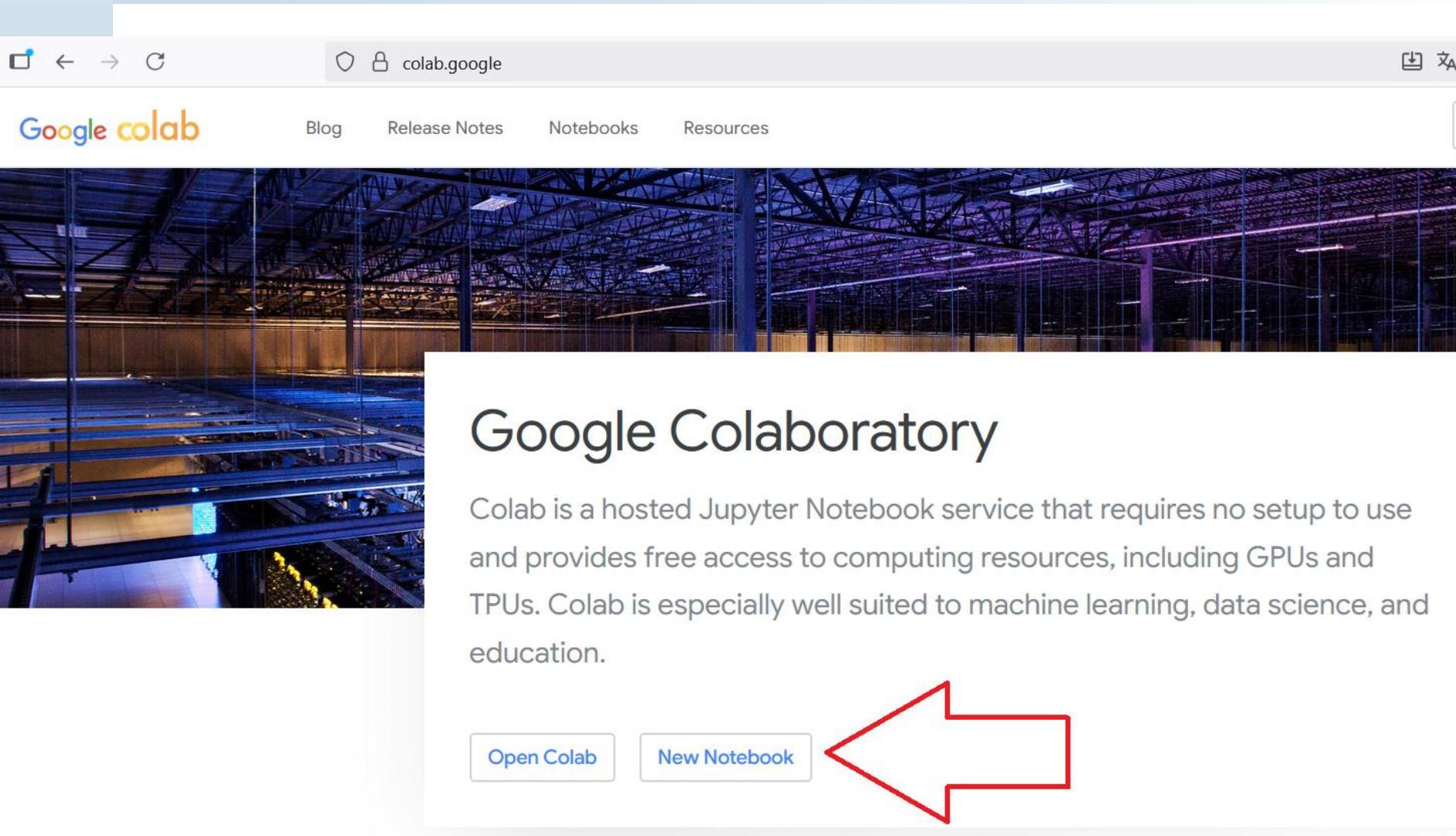
The screenshot shows the Google Colab homepage. At the top, there is a navigation bar with icons for back, forward, and search, followed by the URL "colab.google". Below the navigation bar, the "Google colab" logo is on the left, and menu links for "Blog", "Release Notes", "Notebooks", and "Resources" are on the right. A large, dark blue-toned photograph of a multi-story server room with complex metal structures and glowing lights serves as the background for the main content area. In the foreground, the title "Google Colaboratory" is displayed in a large, bold, dark font. Below the title, a descriptive paragraph explains what Colab is: "Colab is a hosted Jupyter Notebook service that requires no setup to use and provides free access to computing resources, including GPUs and TPUs. Colab is especially well suited to machine learning, data science, and education." At the bottom of the page, there are two buttons: "Open Colab" and "New Notebook", both in blue text.

## Google Colaboratory

Colab is a hosted Jupyter Notebook service that requires no setup to use and provides free access to computing resources, including GPUs and TPUs. Colab is especially well suited to machine learning, data science, and education.

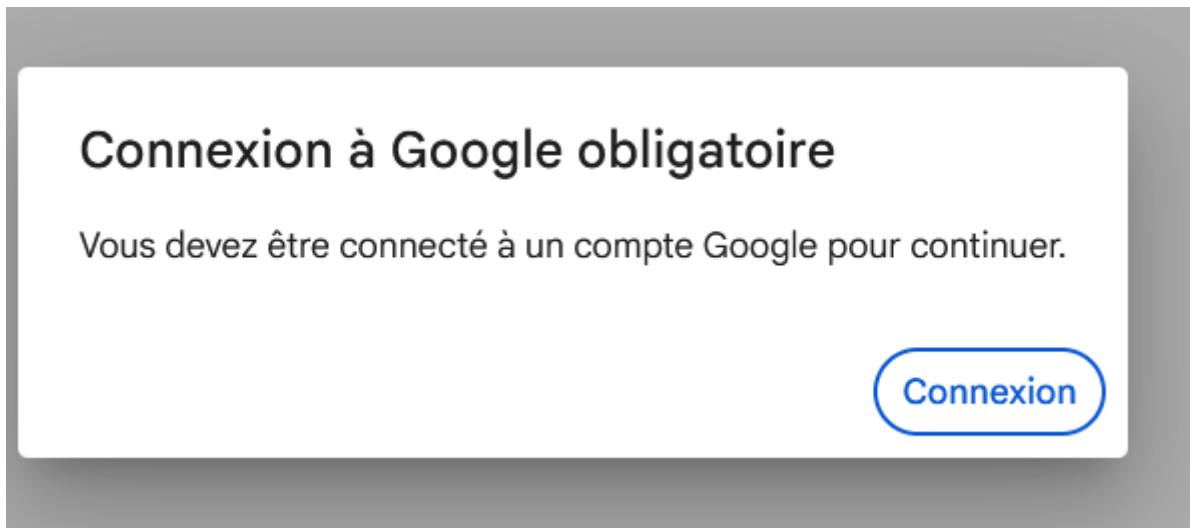
[Open Colab](#) [New Notebook](#)

# Cliquez sur New Notebook

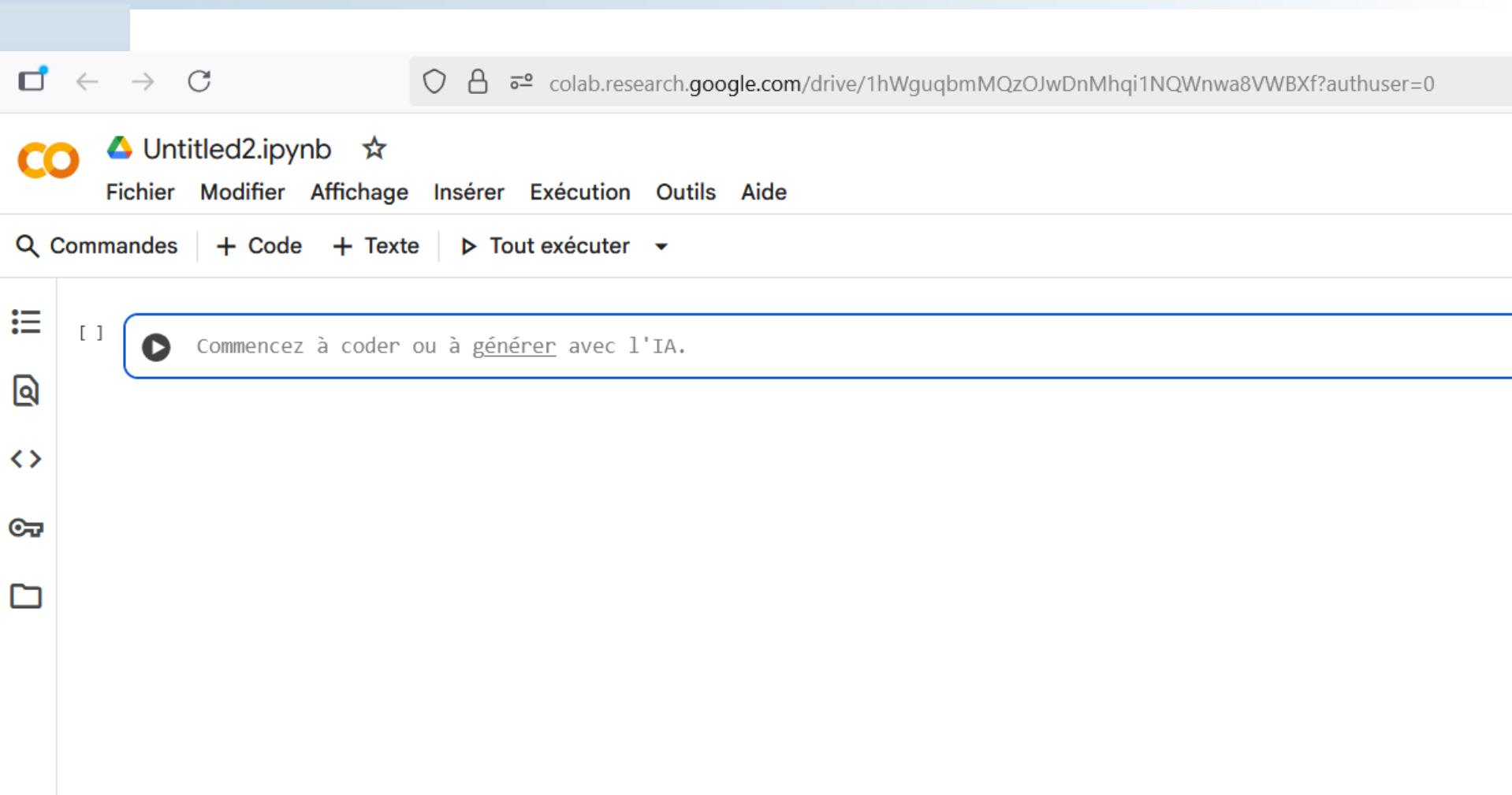


The screenshot shows the Google Colab homepage. At the top, there's a navigation bar with icons for refresh, back, forward, and search, followed by the URL "colab.google". Below the bar, the "Google colab" logo is on the left, and "Blog", "Release Notes", "Notebooks", and "Resources" links are on the right. The main content area features a large, dark blue photograph of a multi-story server room with complex metal structures and glowing lights. Overlaid on this image is the text "Google Colaboratory". Below the title, a paragraph explains what Colab is: "Colab is a hosted Jupyter Notebook service that requires no setup to use and provides free access to computing resources, including GPUs and TPUs. Colab is especially well suited to machine learning, data science, and education." At the bottom, there are two buttons: "Open Colab" and "New Notebook". A large red arrow points from the text "Cliquez sur New Notebook" at the top to the "New Notebook" button.

# Premier programme sur Colab

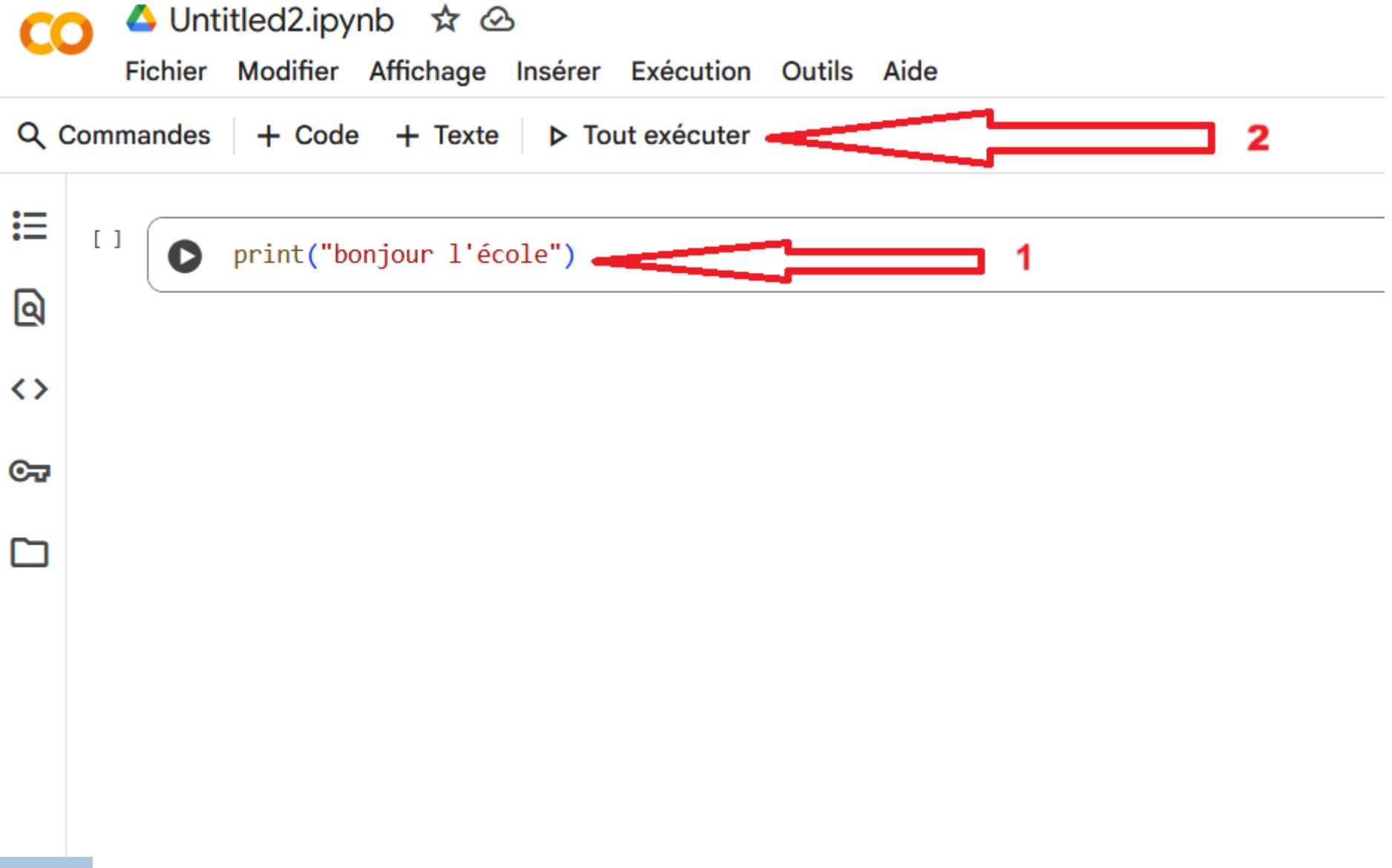


# Premier programme sur Colab



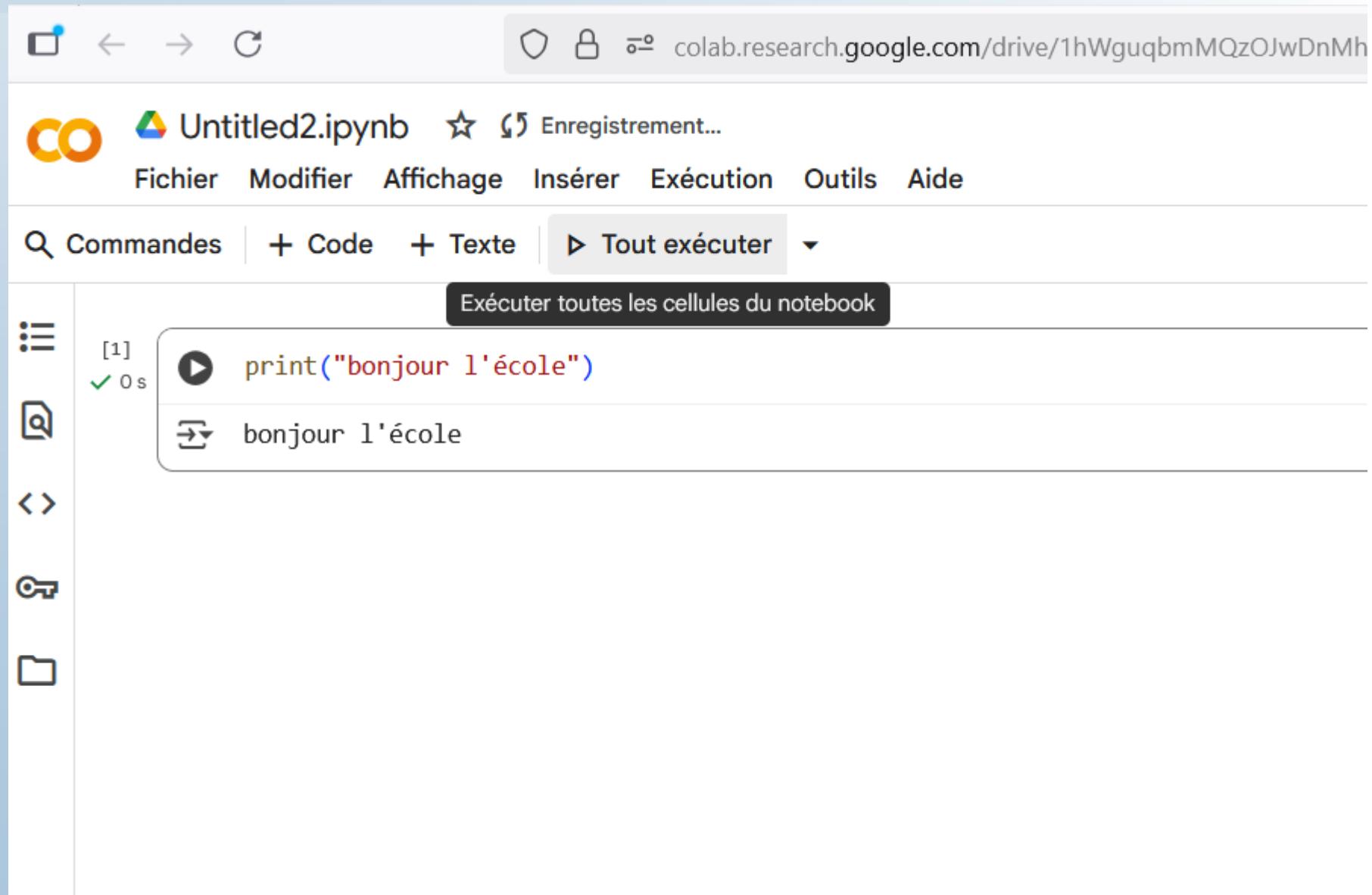
The screenshot shows a Google Colaboratory interface. At the top, there's a browser-style header with icons for back, forward, and refresh, followed by a URL bar containing the link `colab.research.google.com/drive/1hWguqbmMQzOJwDnMhqi1NQWnwa8VWBXf?authuser=0`. Below the header is the notebook title "Untitled2.ipynb" with a star icon. The menu bar includes "Fichier", "Modifier", "Affichage", "Insérer", "Exécution", "Outils", and "Aide". A search bar labeled "Commandes" is followed by buttons for "+ Code" and "+ Texte", and a dropdown menu "Tout exécuter". On the left side, there's a sidebar with various icons: three horizontal lines, a question mark, a double arrow, a key, and a folder. The main workspace shows a single code cell starting with "[ ]" and a play button icon, with the placeholder text "Commencez à coder ou à générer avec l'IA.".

# Premier programme sur Colab



The screenshot shows the Google Colaboratory interface. At the top, there's a navigation bar with a 'CO' icon, a file named 'Untitled2.ipynb', and icons for favoriting and sharing. Below the bar are menu options: Fichier, Modifier, Affichage, Insérer, Exécution, Outils, and Aide. A search bar labeled 'Commandes' is followed by buttons for '+ Code' and '+ Texte', and a 'Tout exécuter' button. A large red arrow points from the 'Tout exécuter' button towards the right edge of the screen, with the number '2' at its tip. On the left side, there's a sidebar with various icons: a list, a magnifying glass, a double arrow, a key, and a folder. In the main workspace, a code cell starts with '[ ]' and contains the Python command `print("bonjour l'école")`. A red arrow points from this command towards the right edge of the screen, with the number '1' at its tip.

# Premier programme sur Colab



The screenshot shows a Google Colab notebook titled "Untitled2.ipynb". The menu bar includes Fichier, Modifier, Affichage, Insérer, Exécution, Outils, and Aide. The toolbar below has "Commandes", "+ Code", "+ Texte", and a dropdown set to "Tout exécuter". On the left, there are icons for file operations like New, Open, Save, and Delete. The main area displays a code cell with the command `print("bonjour l'école")`, which has been executed and printed the output `bonjour l'école`. A button labeled "Exécuter toutes les cellules du notebook" is visible above the cell.

```
[1] ✓ 0 s
    print("bonjour l'école")
→ bonjour l'école
```

# Premier programme sur Colab

- Vous pouvez exécuter avec Ctrl+Enter

# Python – Présentation

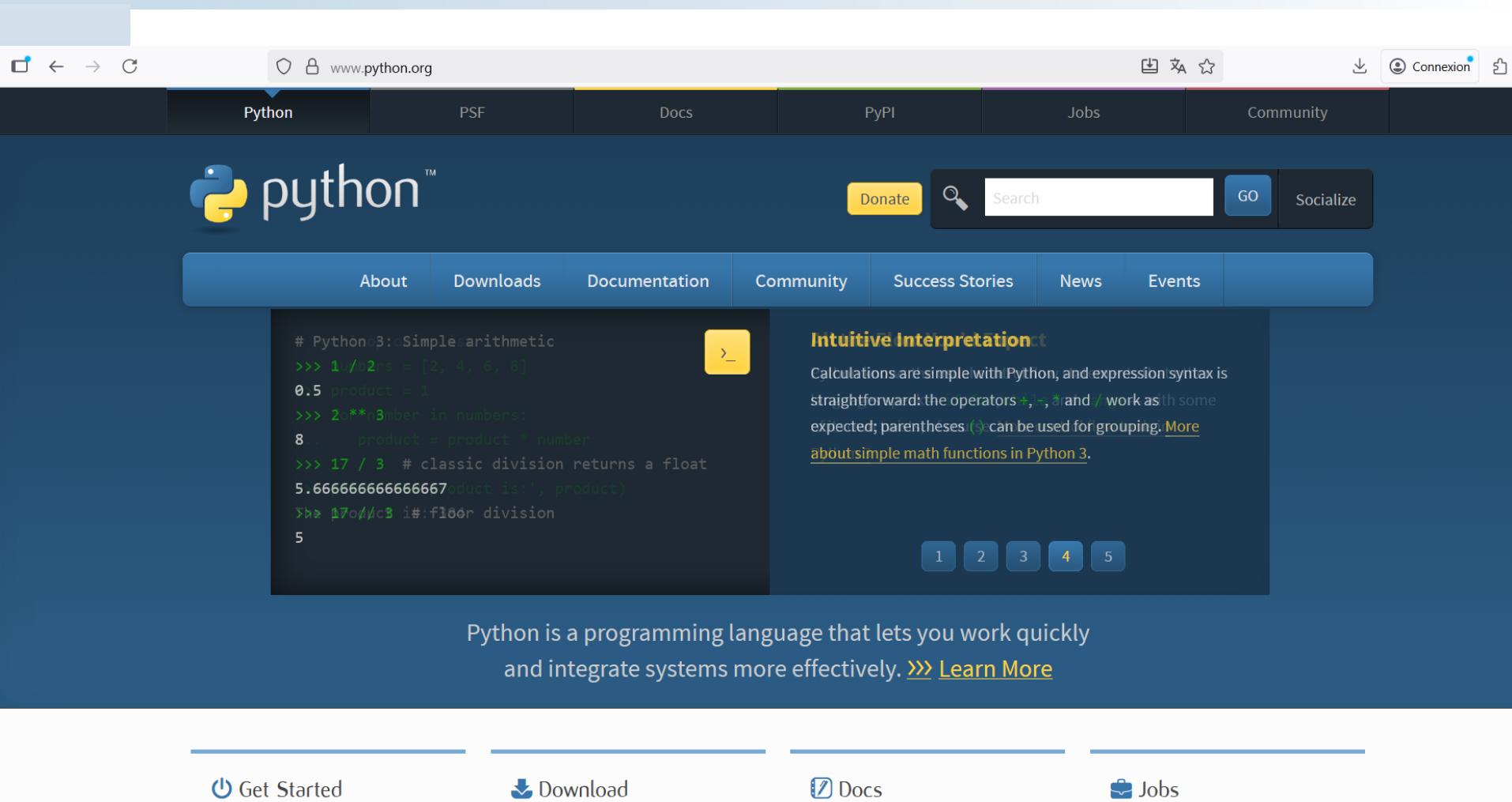
- Crée par Guido van Rossum en 1991
- Géré par la Python Software Foundation
- Organisme à but non lucratif
- Financement : dons, sponsors, conférences
- Philosophie : simplicité et lisibilité

- L'organisme qui maintient le langage de programmation Python est la Python Software Foundation (PSF). Il s'agit d'une organisation à but non lucratif qui a pour mission de faire progresser le langage de programmation Python.
- Fondation : La Python Software Foundation (PSF) a été créée en 2001.
- Rôle : Elle est responsable du développement et de la maintenance du langage, de ses bibliothèques standard et de l'écosystème qui l'entoure.
- Financement : Le financement de la PSF provient de dons, de subventions et de partenariats avec des entreprises du monde entier.

# Site officiel Python

- Site officiel : [python.org](https://www.python.org)
- Documentation complète
- Téléchargement de l'interpréteur
- Communauté et ressources

# (Capture d'écran : page d'accueil [python.org](http://python.org))



The screenshot shows the Python.org homepage. At the top, there's a navigation bar with links for Python, PSF, Docs, PyPI, Jobs, and Community. Below the navigation is a large header featuring the Python logo and the word "python™". To the right of the logo are buttons for "Donate", "Search" (with a magnifying glass icon), "GO", and "Socialize". A horizontal menu bar below the header includes links for About, Downloads, Documentation, Community, Success Stories, News, and Events. The main content area features a code snippet demonstrating Python arithmetic:

```
# Python 3: Simple arithmetic
>>> numbers = [2, 4, 6, 8]
0.5 product = 1
>>> 2**n3mber in numbers:
8 . . . product = product * number
>>> 17 / 3 # classic division returns a float
5.666666666666667oduct is:', product)
The p7oduc3 i#:floo7r division
5
```

To the right of the code, there's a section titled "Intuitive Interpretation" with text about Python's calculation rules. Below the code and text are five numbered buttons (1, 2, 3, 4, 5). Further down, a promotional message states: "Python is a programming language that lets you work quickly and integrate systems more effectively." followed by a "Learn More" link. At the bottom, there are four calls-to-action: "Get Started", "Download", "Docs", and "Jobs".



1



Donate



Search

About

Downloads

Documentation

Community

Success Stories

News

Events

```
# Simple output
>>> print("Hello, I'm Python")
Hello, I'm Python
# Input, assign
>>> name = input("What is your name?")
What is your name?
Python
>>> print(f'Hi, {name}.')
Hi, Python.
```

All releases

Source code

Windows

macOS

Android

Other Platforms

License

Alternative Implementations

### Download for Windows

Python 3.14.0

2

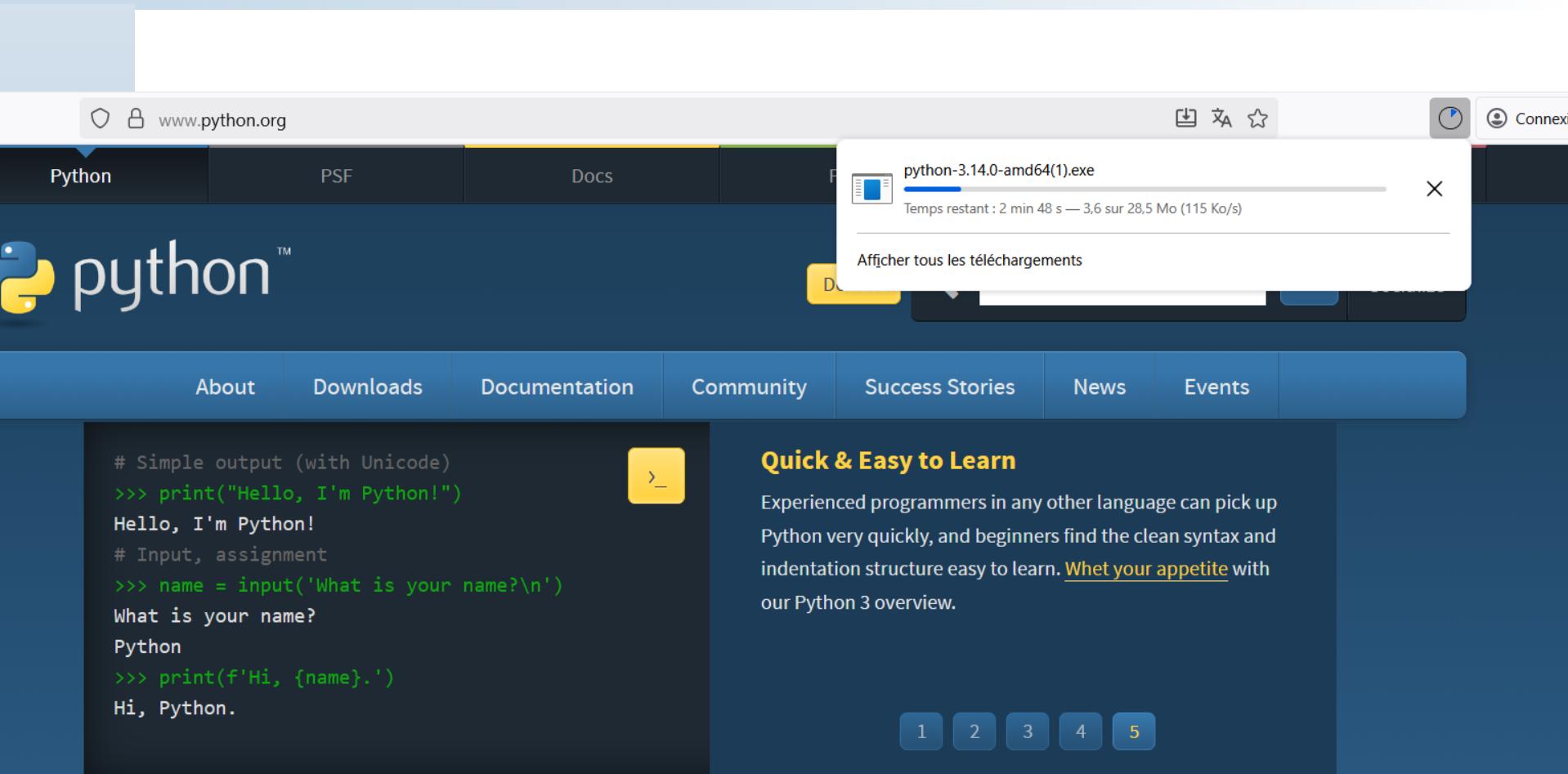


Note that Python 3.9+ cannot be used on Windows 7 or earlier.

Not the OS you are looking for? Python can be used on many operating systems and environments.

[View the full list of downloads.](#)

and integrate systems more effectively. >>> [Learn More](#)



The screenshot shows a web browser window for [www.python.org](http://www.python.org). The page features the Python logo and navigation links for About, Downloads, Documentation, Community, Success Stories, News, and Events. A prominent feature is a code editor window displaying a Python session:

```
# Simple output (with Unicode)
>>> print("Hello, I'm Python!")
Hello, I'm Python!
# Input, assignment
>>> name = input('What is your name?\n')
What is your name?
Python
>>> print(f'Hi, {name}.')
Hi, Python.
```

A yellow button with a right-pointing arrow is positioned next to the code editor. A download progress bar for "python-3.14.0-amd64(1).exe" is visible in the top right corner, showing 3.6 MB of 28.5 MB downloaded at 115 Ko/s, with 2 min 48 s remaining. Navigation buttons for pages 1 through 5 are located at the bottom right of the main content area.

A screenshot of a Python documentation website. At the top, there's a navigation bar with tabs like PSF, Docs, and a search bar. A download dialog box is overlaid on the page, showing a file named "python-3.14.0-amd64(1).exe". It has options to "Ouvrir le fichier" (Open file) and "Afficher tous les téléchargements" (Show all downloads). Below the dialog, there's a yellow "Donate" button and a search bar. The main content area shows Python code examples:

```
: List comprehensions
  = ['Banana', 'Apple', 'Lime']
fruits = [fruit.upper() for fruit in
loud_fruits)
'APPLE', 'LIME']

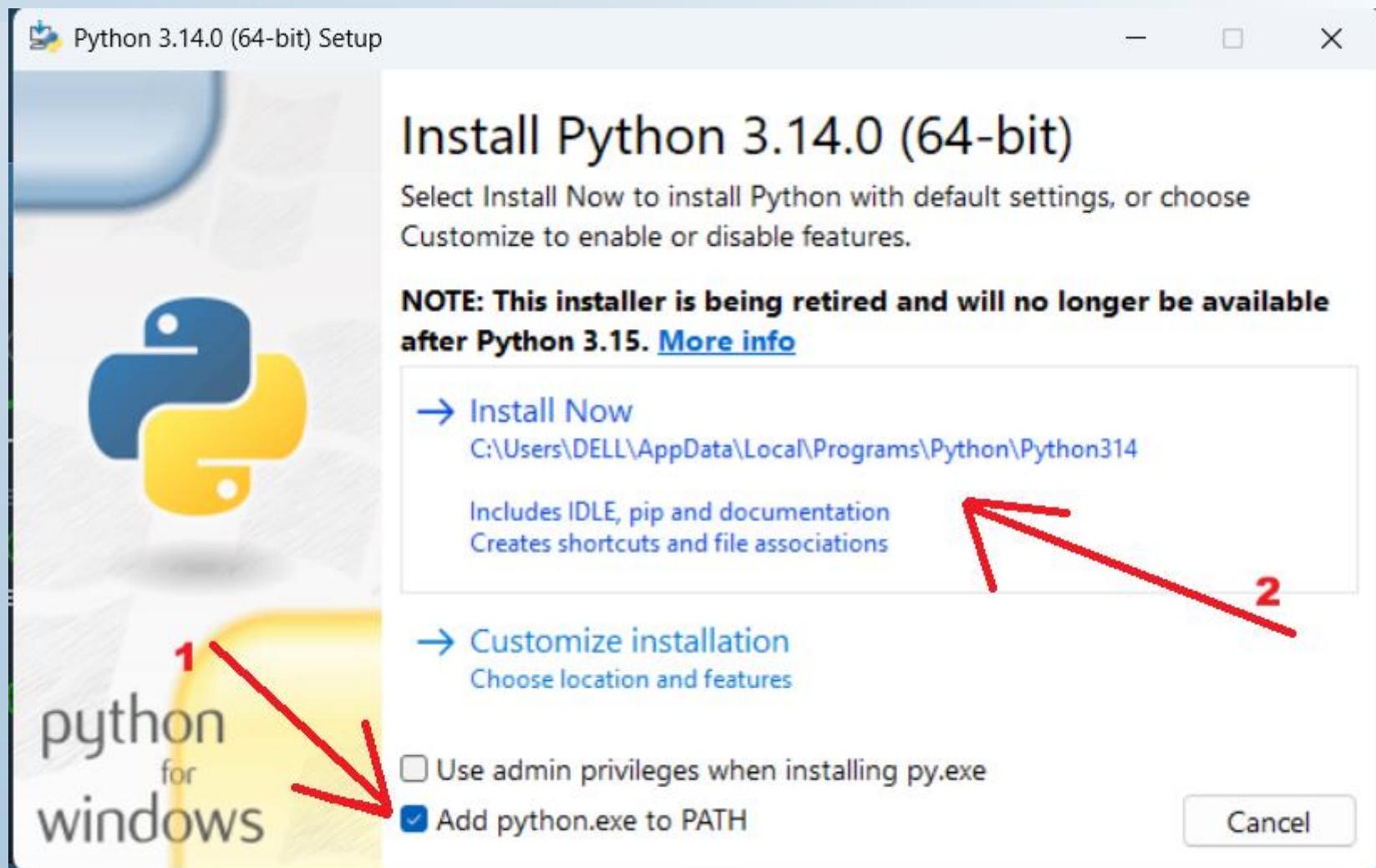
the enumerate function
enumerate(fruits))
ma'), (1, 'Apple'), (2, 'Lime'))]
```

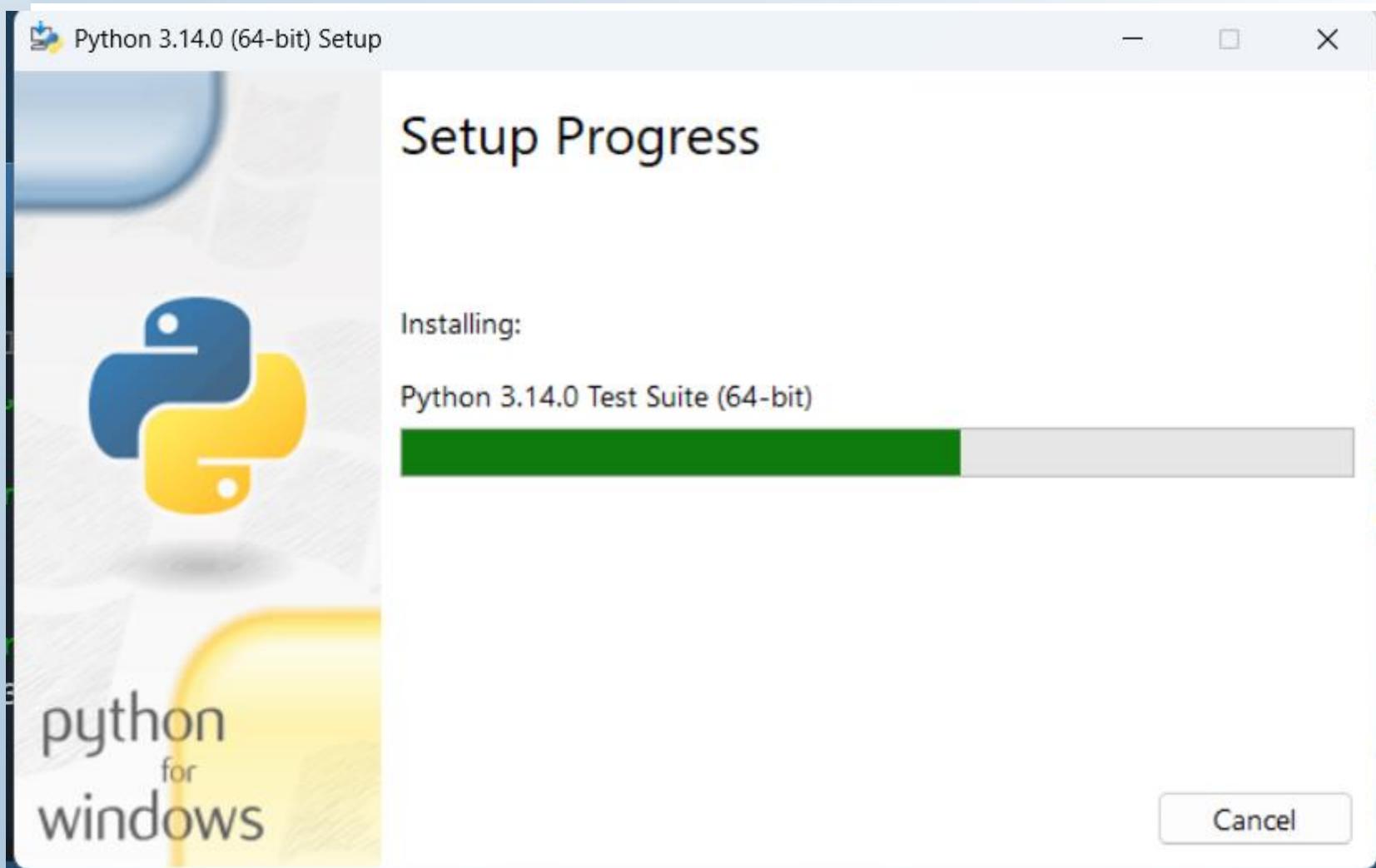
The code demonstrates list comprehensions and the enumerate function.

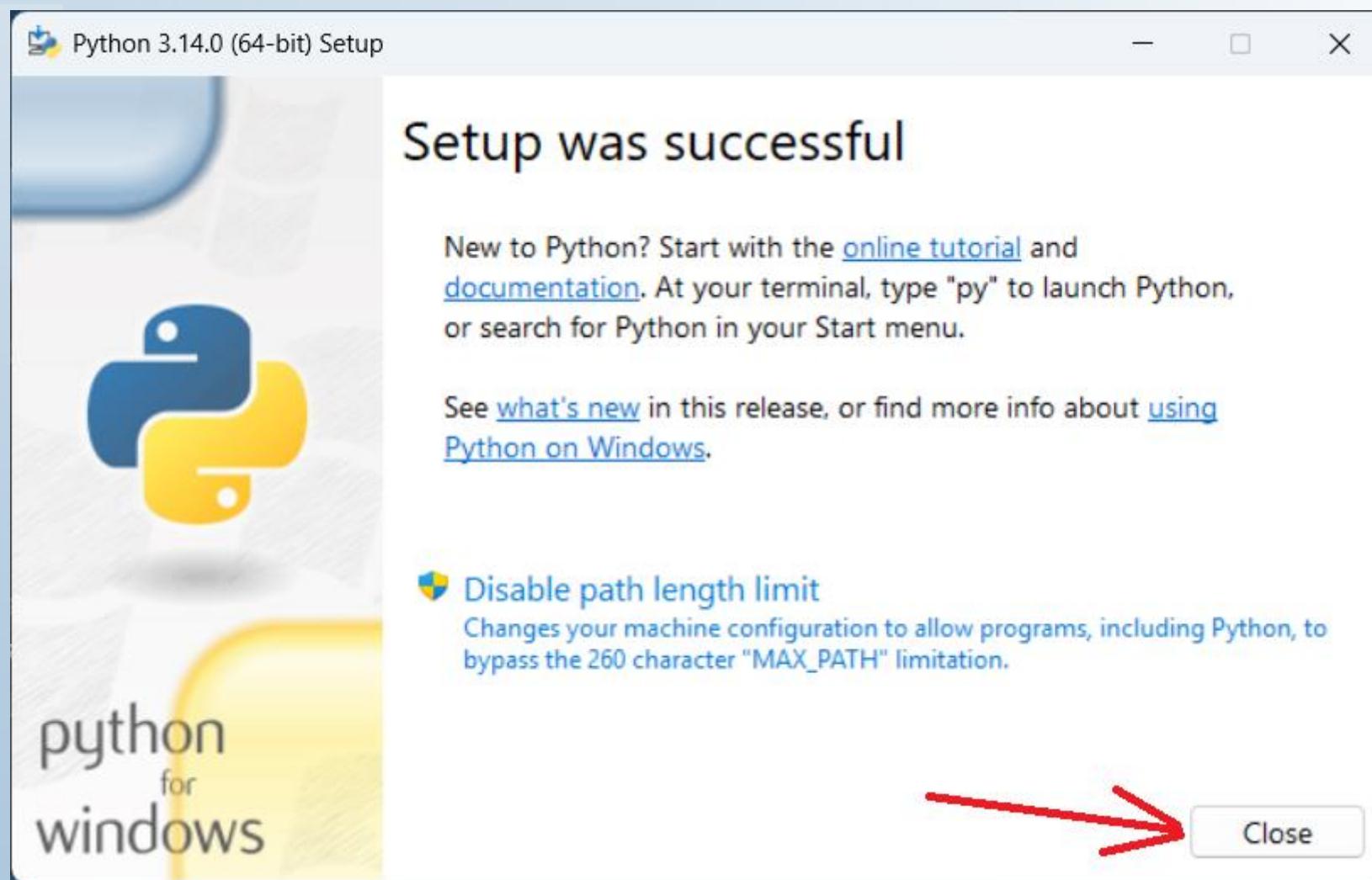
**Compound Data Types**

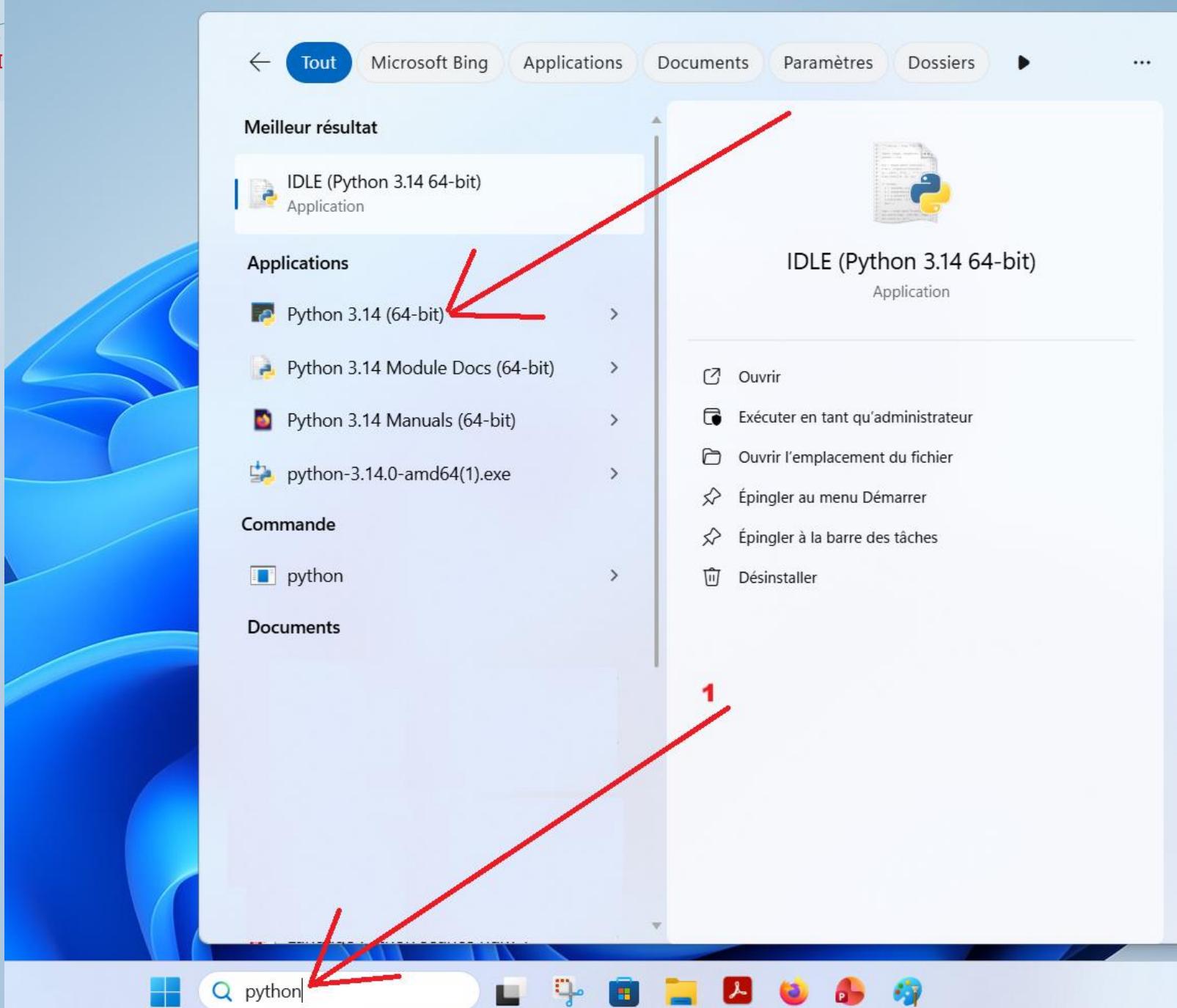
Lists (known as arrays in other languages) are one of the compound data types that Python understands. Lists can be indexed, sliced and manipulated with other built-in functions. [More about lists in Python 3](#)

Navigation links at the bottom: 1, 2, 3, 4, 5

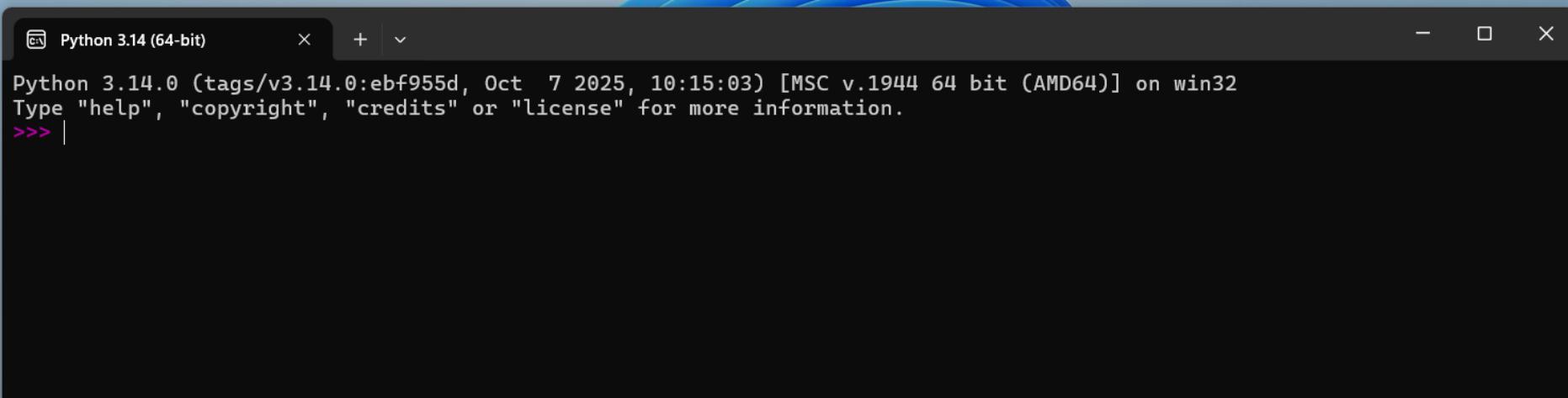






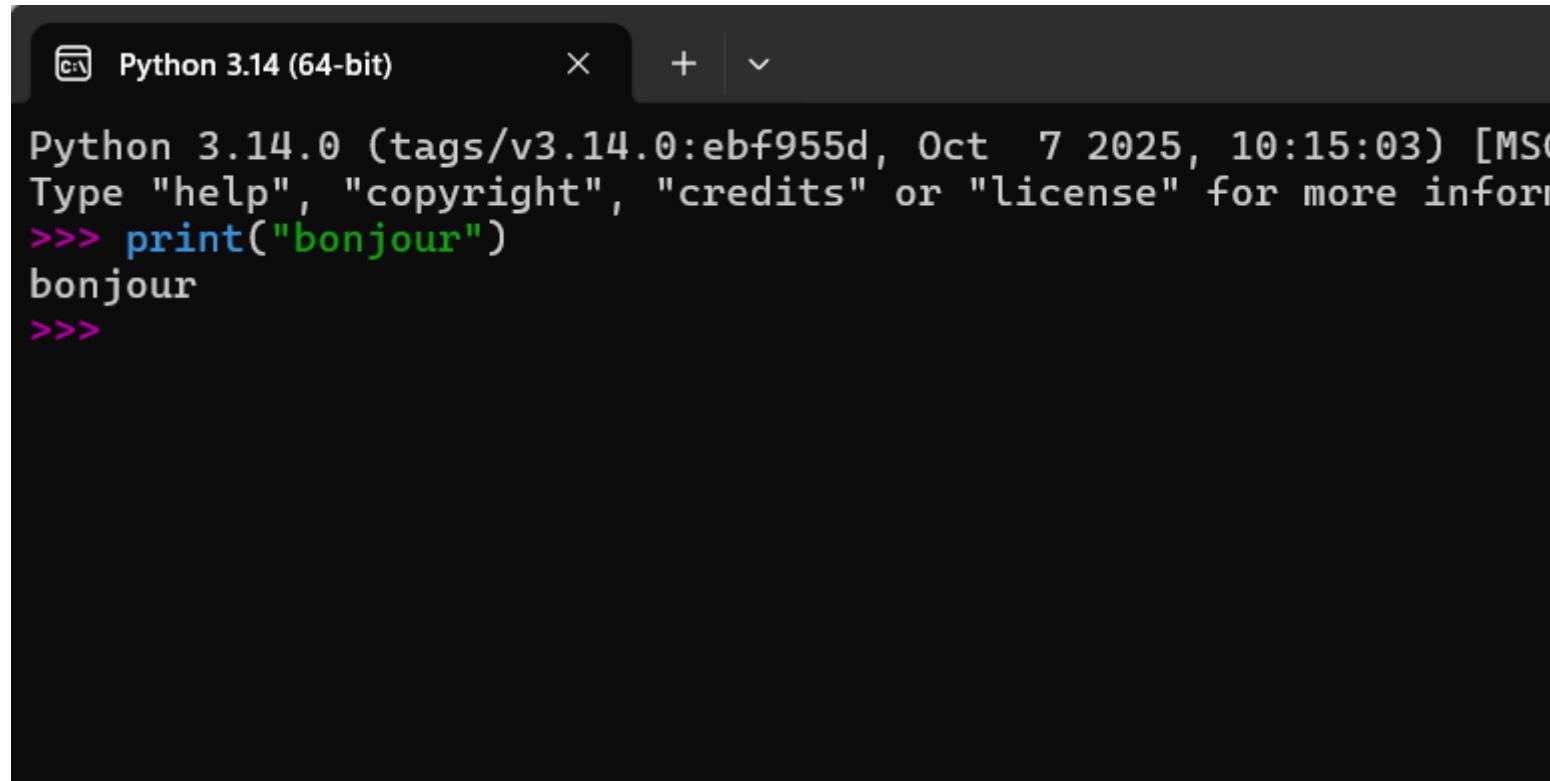


# Python Console

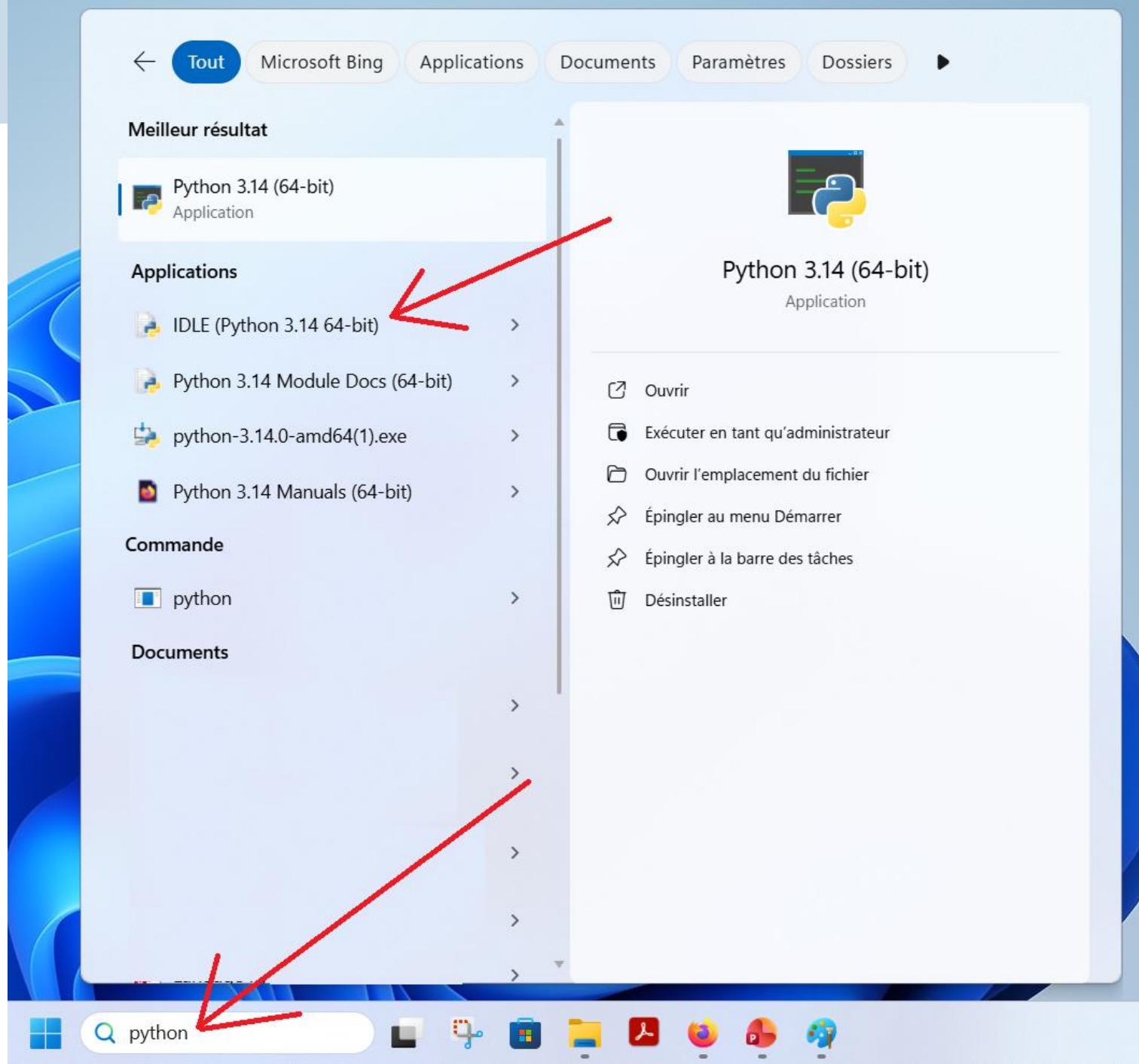


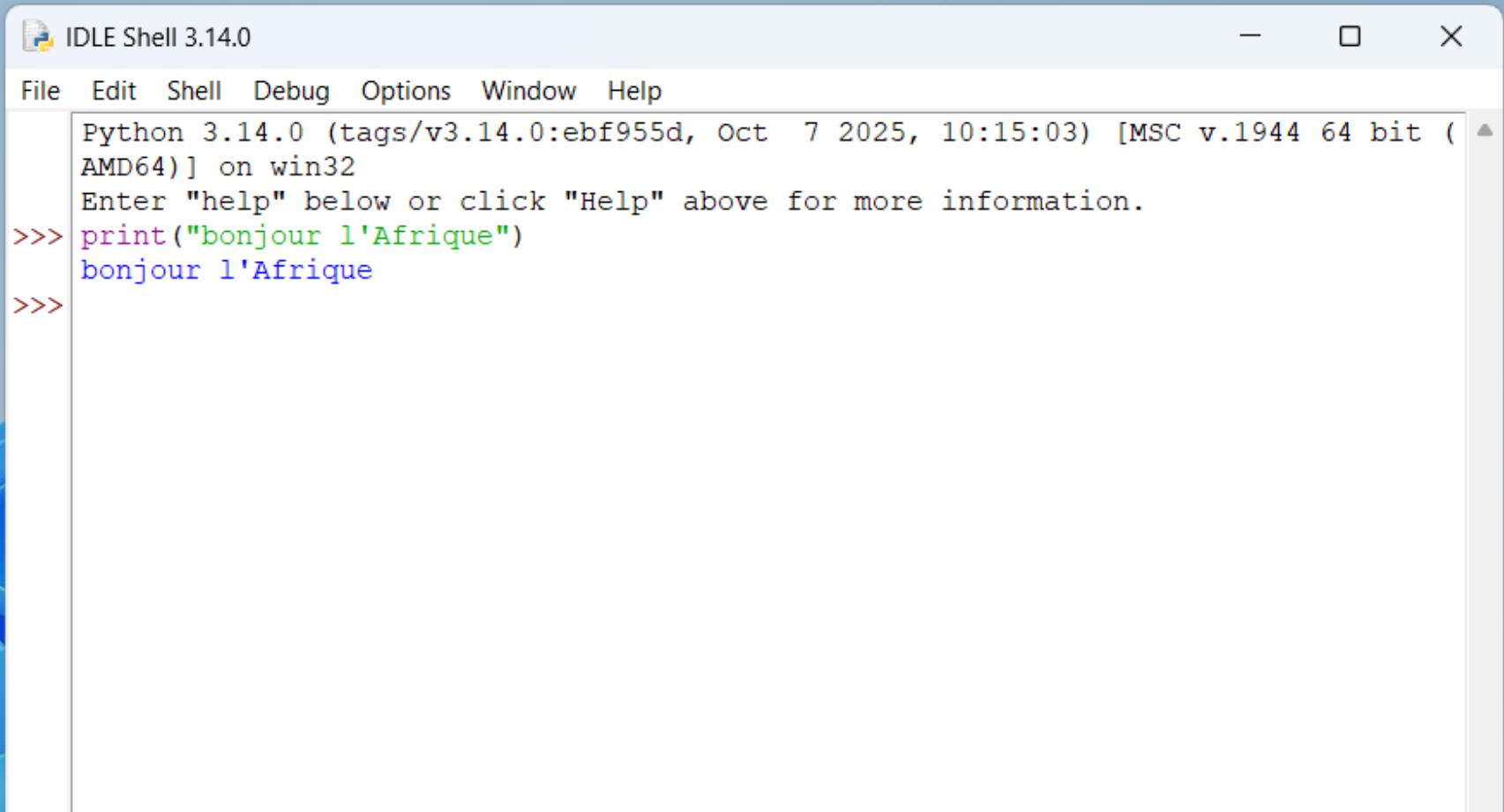
```
Python 3.14 (tags/v3.14.0:ebf955d, Oct  7 2025, 10:15:03) [MSC v.1944 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> |
```

# Python Console : écrivez et cliquez sur la touche Entrée



```
Python 3.14 (64-bit)           X + ▾
Python 3.14.0 (tags/v3.14.0:ebf955d, Oct  7 2025, 10:15:03) [MSC v.3.14 C++]
Type "help", "copyright", "credits" or "license" for more information
>>> print("bonjour")
bonjour
>>>
```





IDLE Shell 3.14.0

File Edit Shell Debug Options Window Help

```
Python 3.14.0 (tags/v3.14.0:ebf955d, Oct  7 2025, 10:15:03) [MSC v.1944 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.
>>> print("bonjour l'Afrique")
bonjour l'Afrique
>>>
```

# Différence entre Python Console et IDLE

## Python Console

- Interface en ligne de commande interactive
- Exécution immédiate instruction par instruction
- Environnement minimaliste
- Idéal pour tests rapides et exploration

## IDLE

- Éditeur de code avec coloration syntaxique
- Possibilité de créer et sauvegarder des fichiers .py
- Interface graphique complète

## Quand utiliser lequel :

- **Console** : tests rapides, exploration interactive
- **IDLE** : développement de scripts complets, apprentissage structuré

# La fonction print()

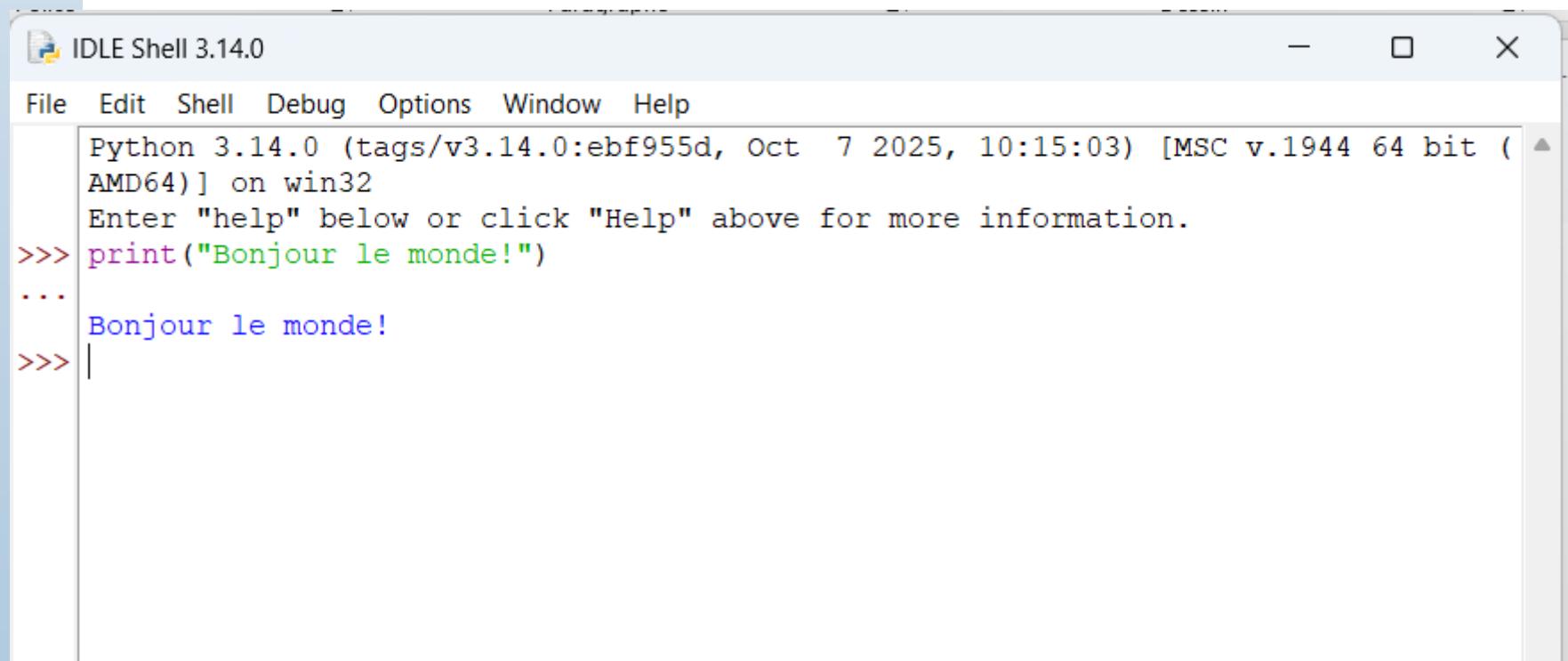
- Fonction pour afficher du texte
- Syntaxe : print(valeur)
- Peut afficher texte, nombres, variables
- Exemples :

```
print("Bonjour le monde!")
```

```
print(42)
```

```
print(3.14)
```

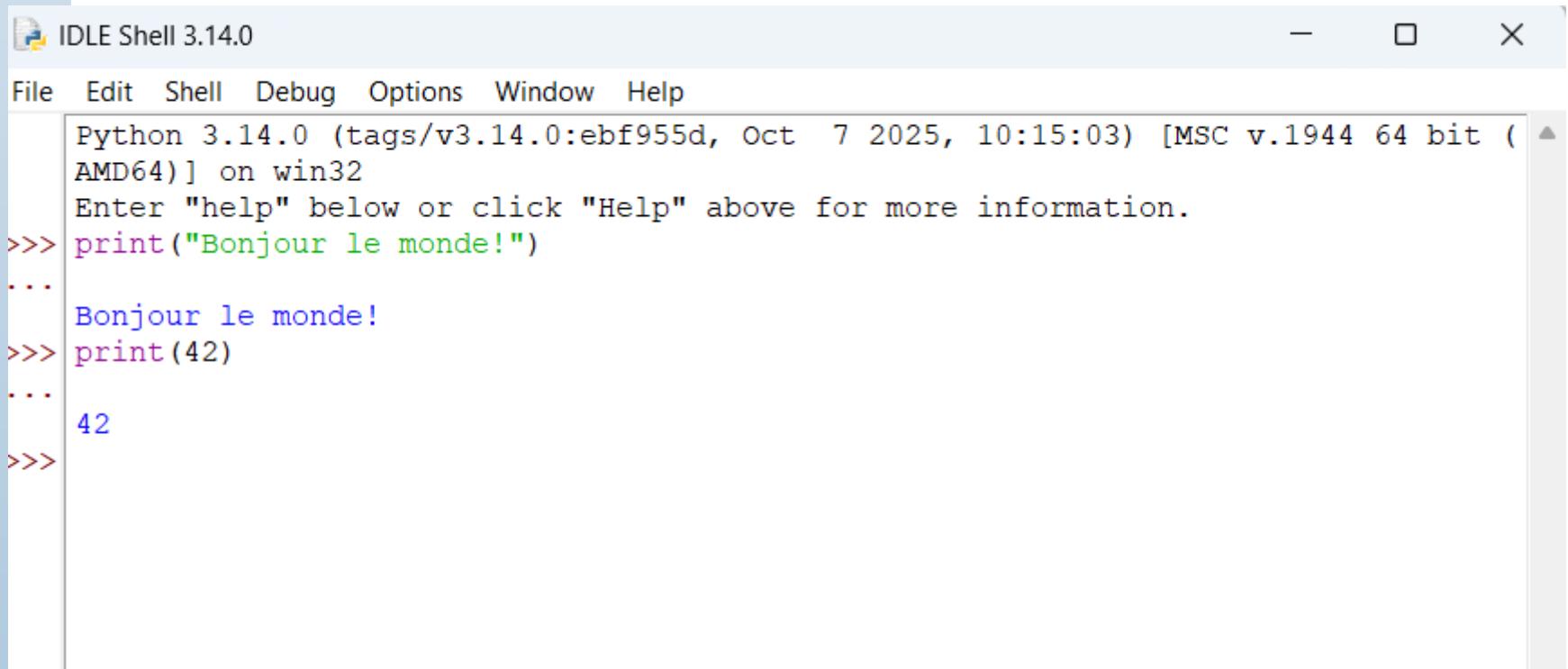
# 1ère instruction



IDLE Shell 3.14.0

```
File Edit Shell Debug Options Window Help
Python 3.14.0 (tags/v3.14.0:ebf955d, Oct 7 2025, 10:15:03) [MSC v.1944 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.
>>> print("Bonjour le monde!")
...
Bonjour le monde!
>>>
```

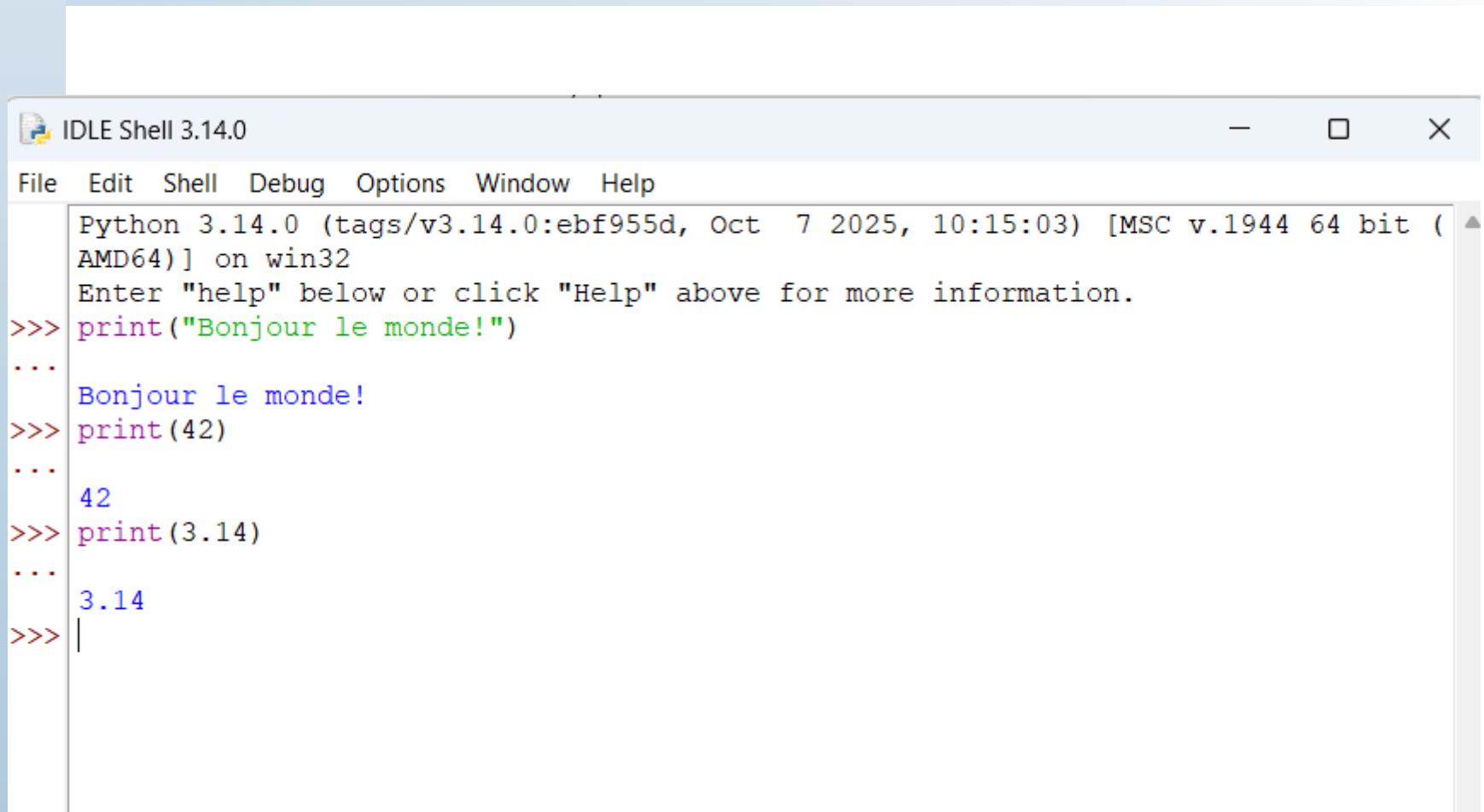
# 2ème instruction



IDLE Shell 3.14.0

```
File Edit Shell Debug Options Window Help
Python 3.14.0 (tags/v3.14.0:ebf955d, Oct 7 2025, 10:15:03) [MSC v.1944 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.
>>> print("Bonjour le monde!")
...
Bonjour le monde!
>>> print(42)
...
42
>>>
```

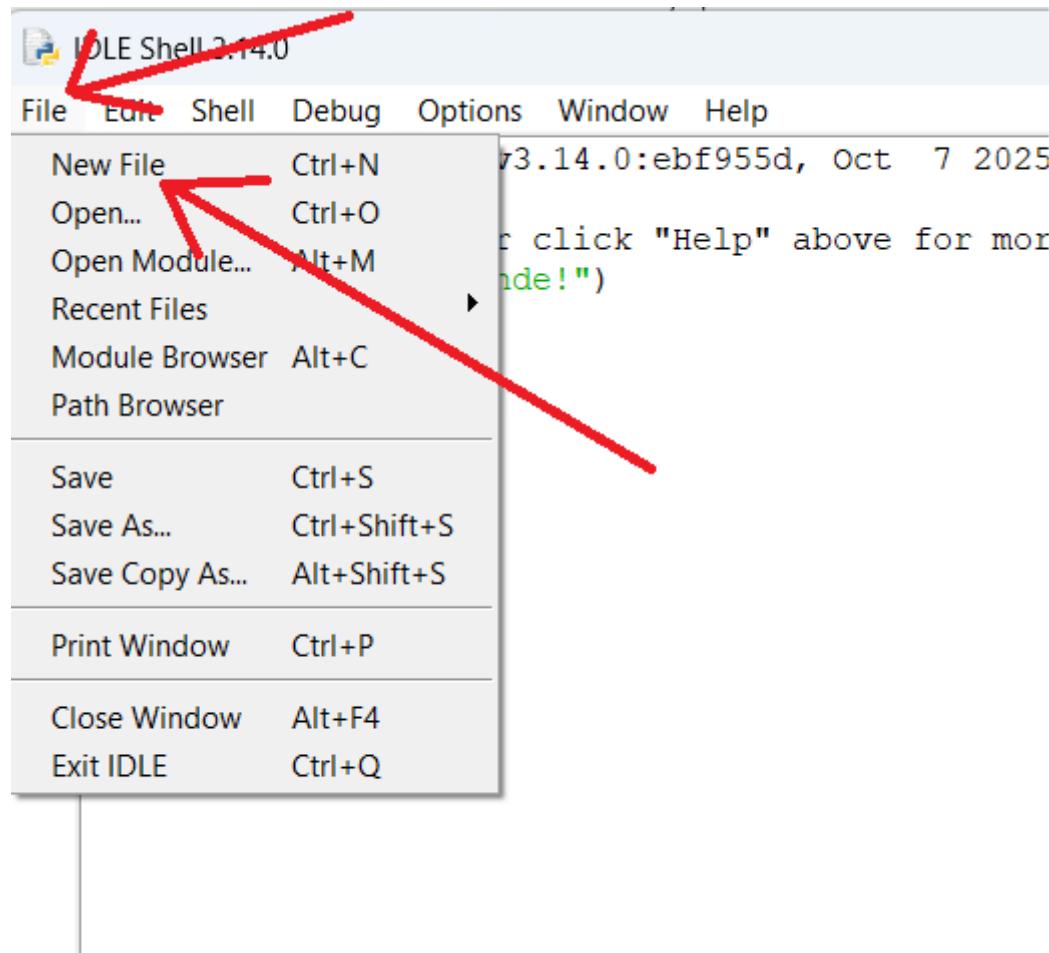
# 3ème instruction

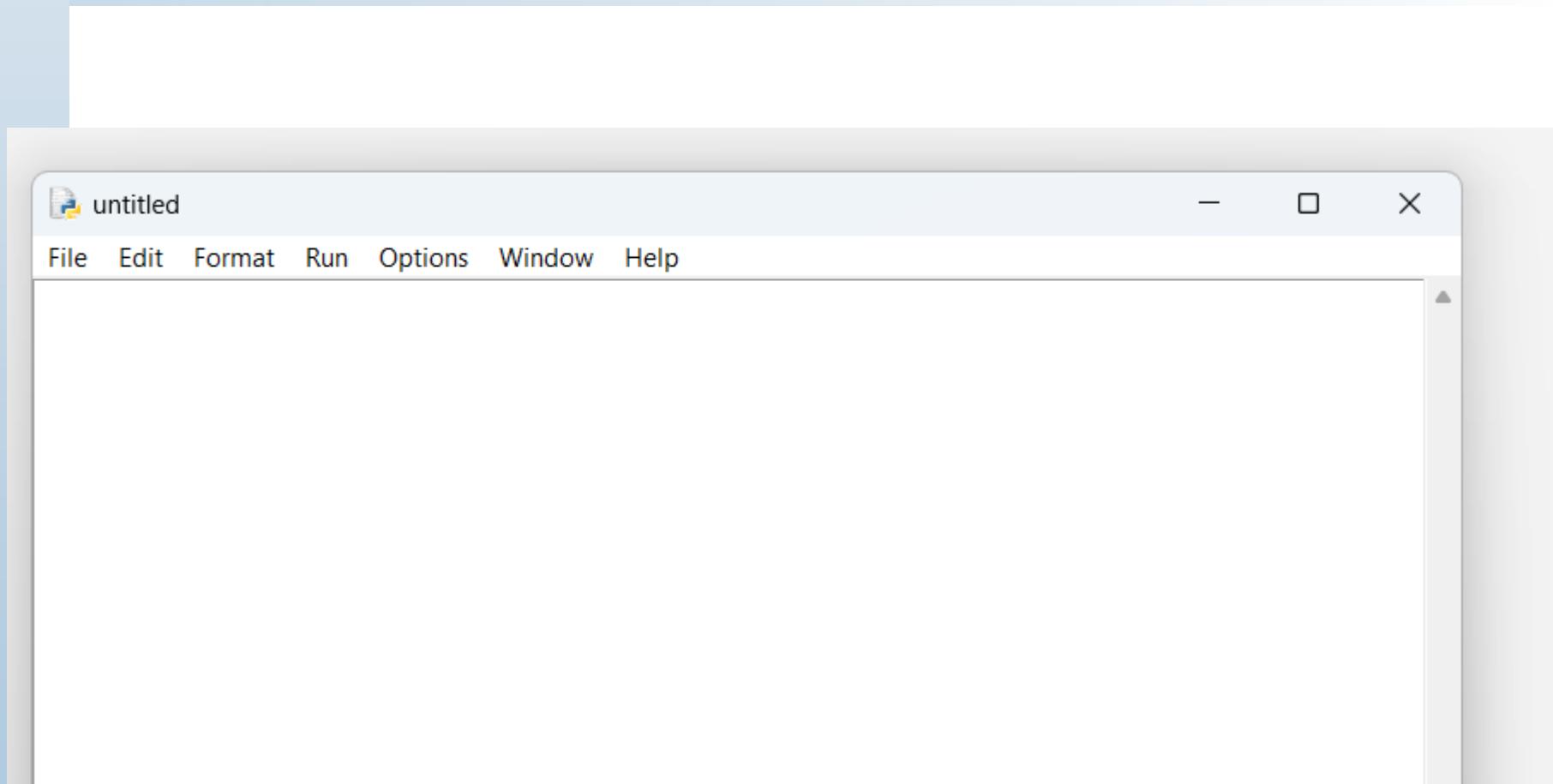


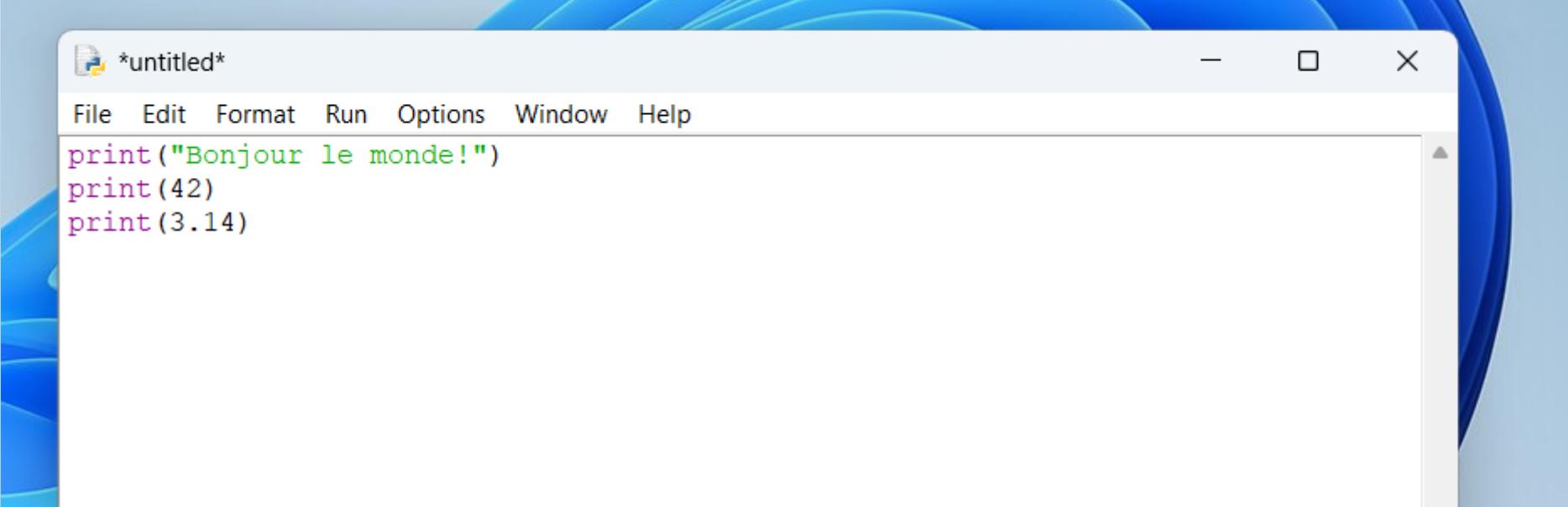
IDLE Shell 3.14.0

```
File Edit Shell Debug Options Window Help
Python 3.14.0 (tags/v3.14.0:ebf955d, Oct 7 2025, 10:15:03) [MSC v.1944 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.
>>> print("Bonjour le monde!")
...
Bonjour le monde!
>>> print(42)
...
42
>>> print(3.14)
...
3.14
>>> |
```

Et si on voulait exécuter les 3 instructions d'un seul coup !?

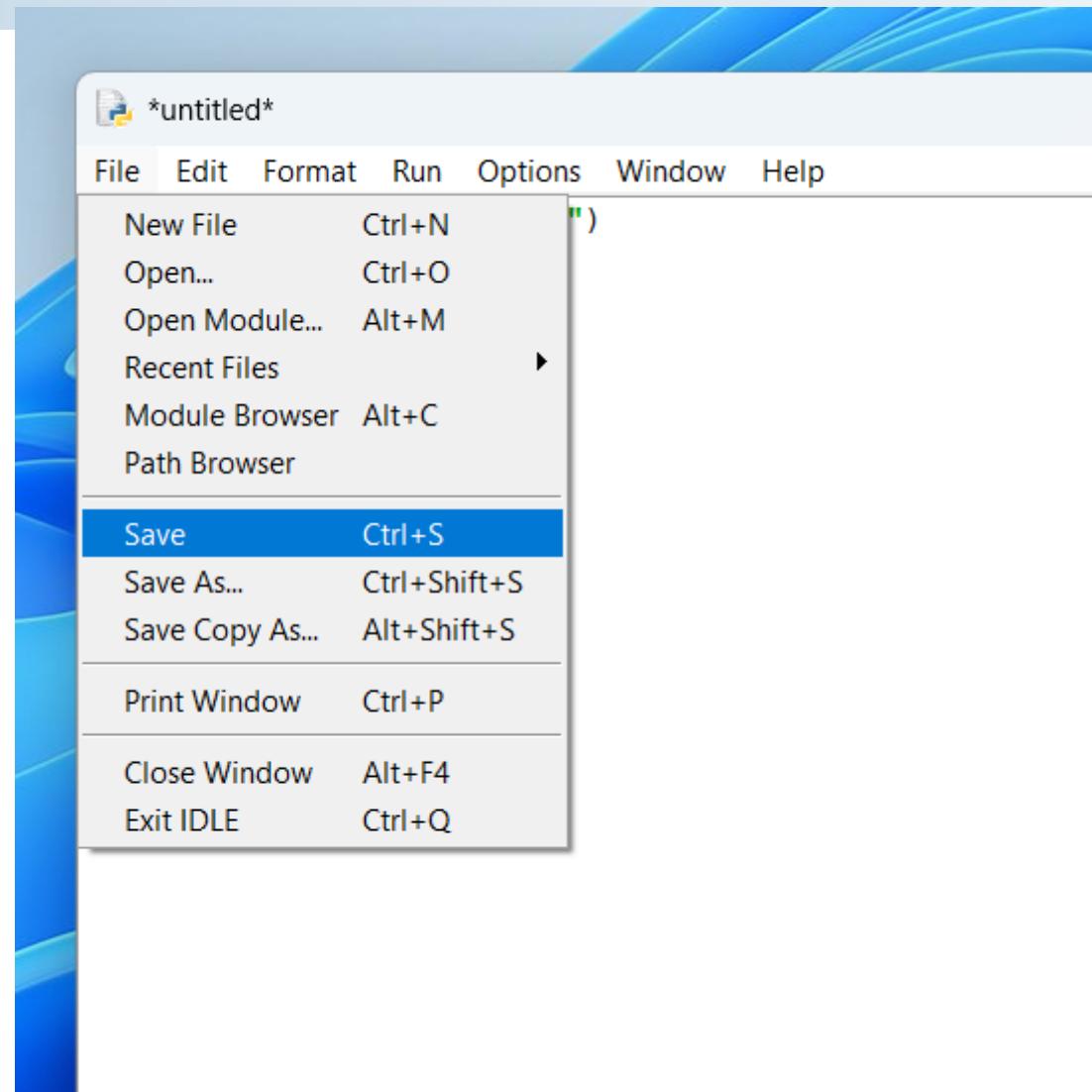


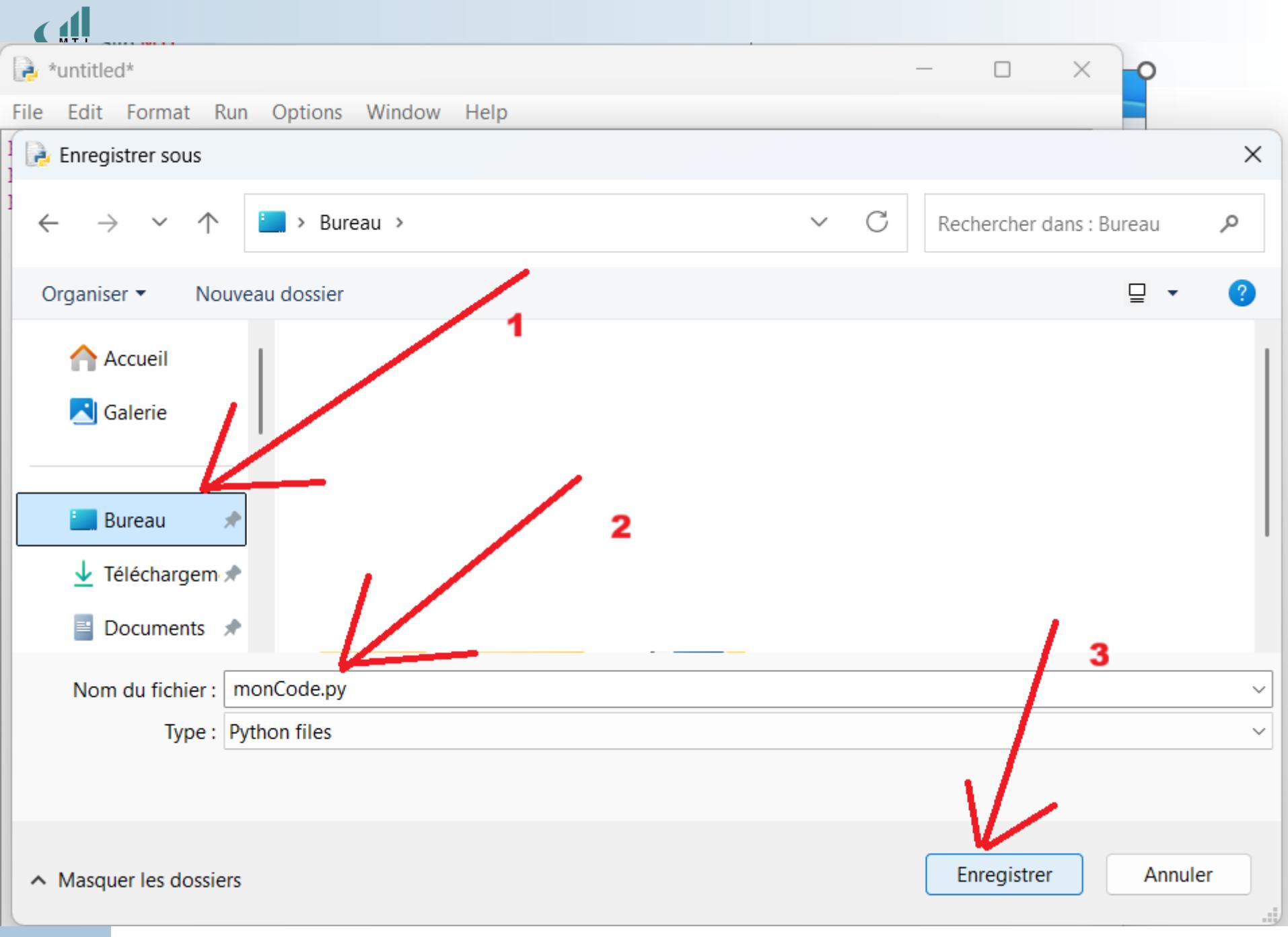


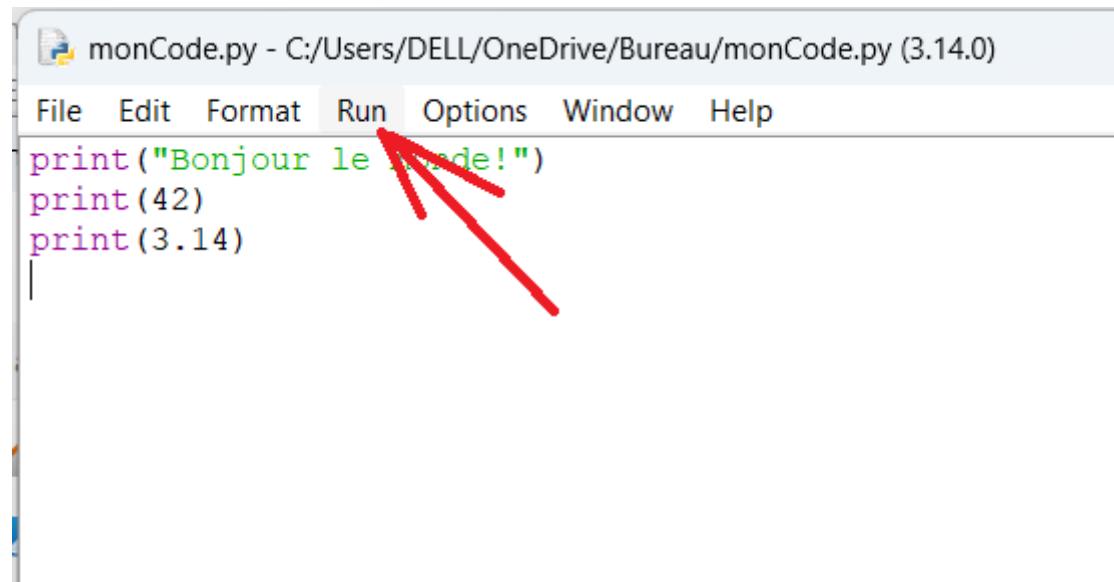


```
*untitled*
```

```
File Edit Format Run Options Window Help
print("Bonjour le monde!")
print(42)
print(3.14)
```



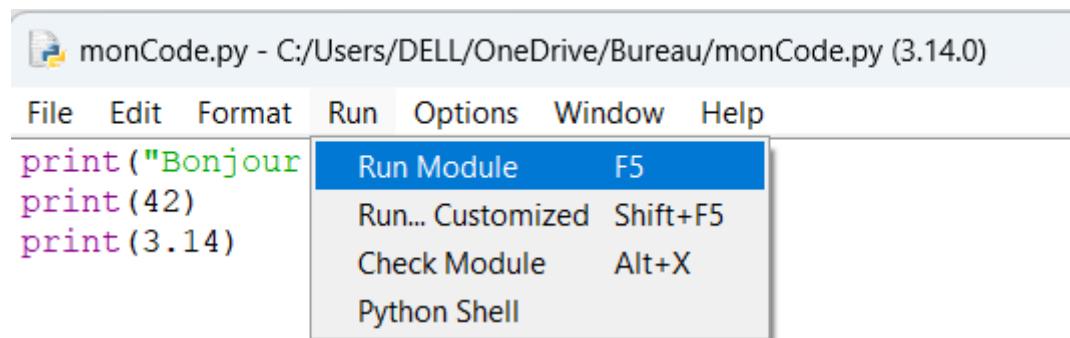




monCode.py - C:/Users/DELL/OneDrive/Bureau/monCode.py (3.14.0)

File Edit Format Run Options Window Help

```
print("Bonjour le monde!")
print(42)
print(3.14)
```



A screenshot of the Python IDLE interface. The window title is "monCode.py - C:/Users/DELL/OneDrive/Bureau/monCode.py (3.14.0)". The menu bar includes File, Edit, Format, Run, Options, Window, and Help. A context menu is open over the code editor, with "Run Module F5" highlighted in blue. Other options in the menu are Run... Customized Shift+F5, Check Module Alt+X, and Python Shell.

```
print("Bonjour")
print(42)
print(3.14)
```

```
>>>
=====
      RESTART: C:/Users/DELL/OneDrive/Bureau/monCode.py ===
Bonjour le monde!
42
3.14
>>>
```

# Déclaration de variables

- Une variable est une boîte pour stocker une valeur
- Déclaration : nom\_variable = valeur
- Typage dynamique
- Exemples :

age = 25

nom = "Ali"

note = 19.99

# Afficher des variables

- Combiner texte et variables
- Exemples :

age = 25

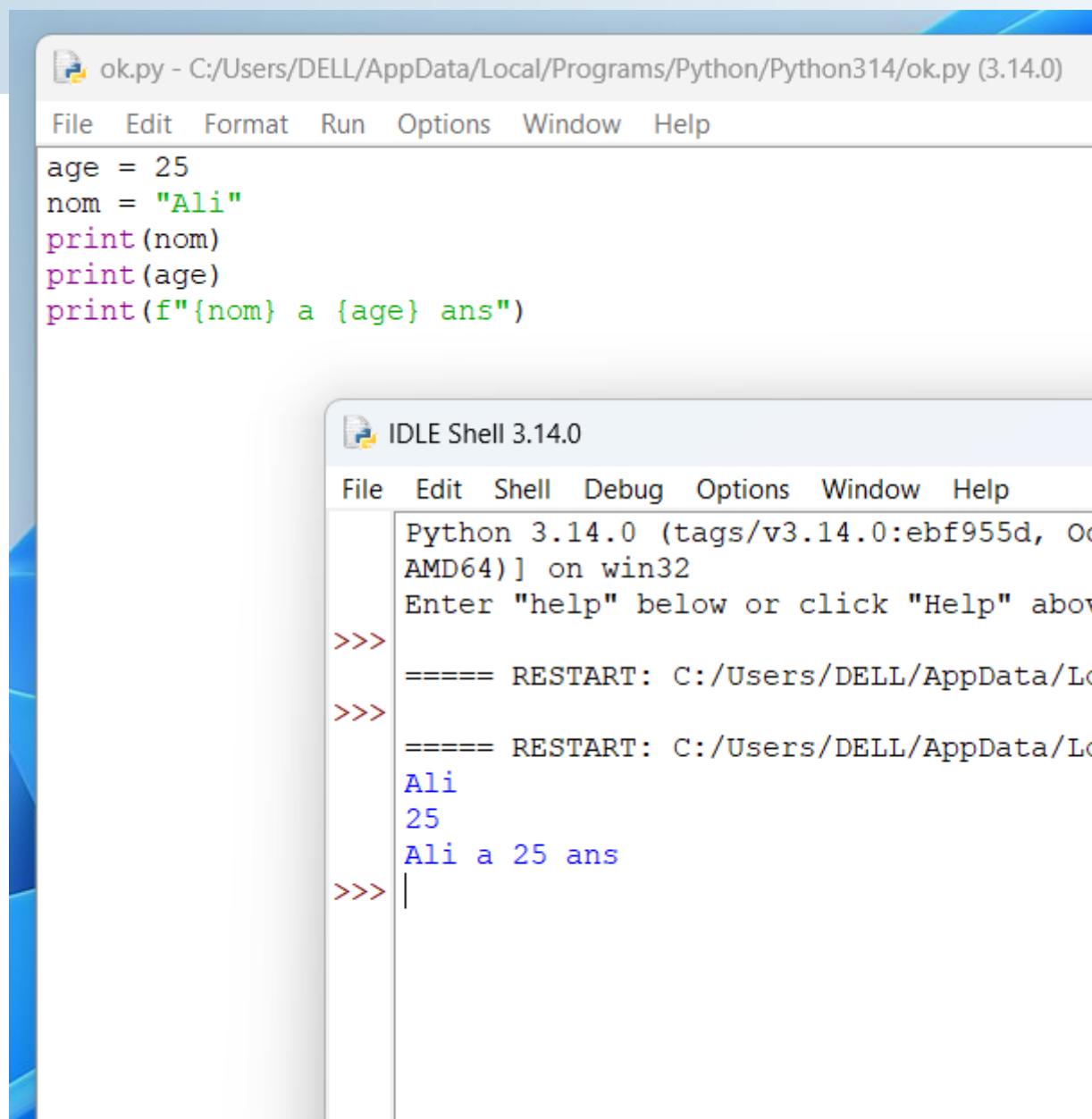
nom = "Ali"

print(nom)

print(age)

print(f"{nom} a {age} ans")

(attention il y a un : 'f' à ne pas oublier)



The image shows a screenshot of the Python IDLE environment. At the top, there is a file named 'ok.py' with the path 'C:/Users/DELL/AppData/Local/Programs/Python/Python314/ok.py (3.14.0)'. Below it is a menu bar with File, Edit, Format, Run, Options, Window, and Help. The main code area contains the following Python script:

```
age = 25
nom = "Ali"
print(nom)
print(age)
print(f"{nom} a {age} ans")
```

Below the code is the IDLE Shell window titled 'IDLE Shell 3.14.0'. It has its own menu bar with File, Edit, Shell, Debug, Options, Window, and Help. The shell displays the following output:

```
Python 3.14.0 (tags/v3.14.0:ebf955d, Oct 12 2023, 12:48:00) [MSC v.1938 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above
>>> ===== RESTART: C:/Users/DELL/AppData/Local/Programs/Python/Python314/ok.py
>>> ===== RESTART: C:/Users/DELL/AppData/Local/Programs/Python/Python314/ok.py
Ali
25
Ali a 25 ans
>>> |
```

# Si vous oubliez le 'f' :

The image shows a screenshot of the Python IDLE environment. On the left, there is a code editor window titled "ok.py - C:/Users/DELL/AppData/Local/Programs/Python/Python314/ok.py (3.14.0)". It contains the following Python code:

```
age = 25
nom = "Ali"
print(nom)
print(age)
print("{nom} a {age} ans")
```

To the right of the code editor is the IDLE Shell window titled "IDLE Shell 3.14.0". It displays the following output:

```
Python 3.14.0 (tags/v3.14.0:ebf955d, Oct 12 2023, 16:44:32) [MSC v.1938 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above
>>>
===== RESTART: C:/Users/DELL/AppData/Local/Programs/Python/Python314/ok.py =====
Ali
25
{nom} a {age} ans
>>> |
```

## ■ Et si on ne veut pas utiliser 'f' ?!

Ecrivez donc ce code :

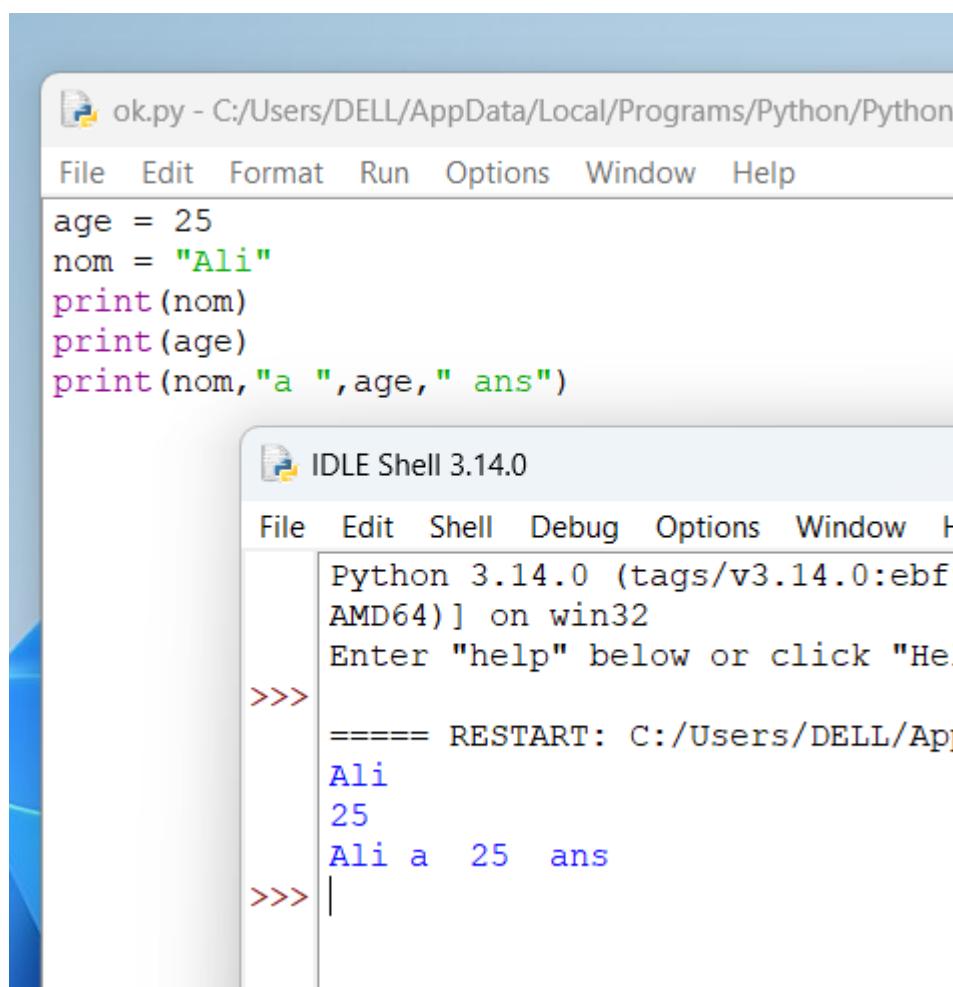
age = 25

nom = "Ali"

print(nom)

print(age)

print(nom,"a ",age," ans")



The image shows a screenshot of the Python IDLE environment. At the top, there is a script editor window titled "ok.py - C:/Users/DELL/AppData/Local/Programs/Python/Python". The code in the editor is:

```
age = 25
nom = "Ali"
print(nom)
print(age)
print(nom, "a ", age, " ans")
```

Below the script editor is a shell window titled "IDLE Shell 3.14.0". The shell displays the following output:

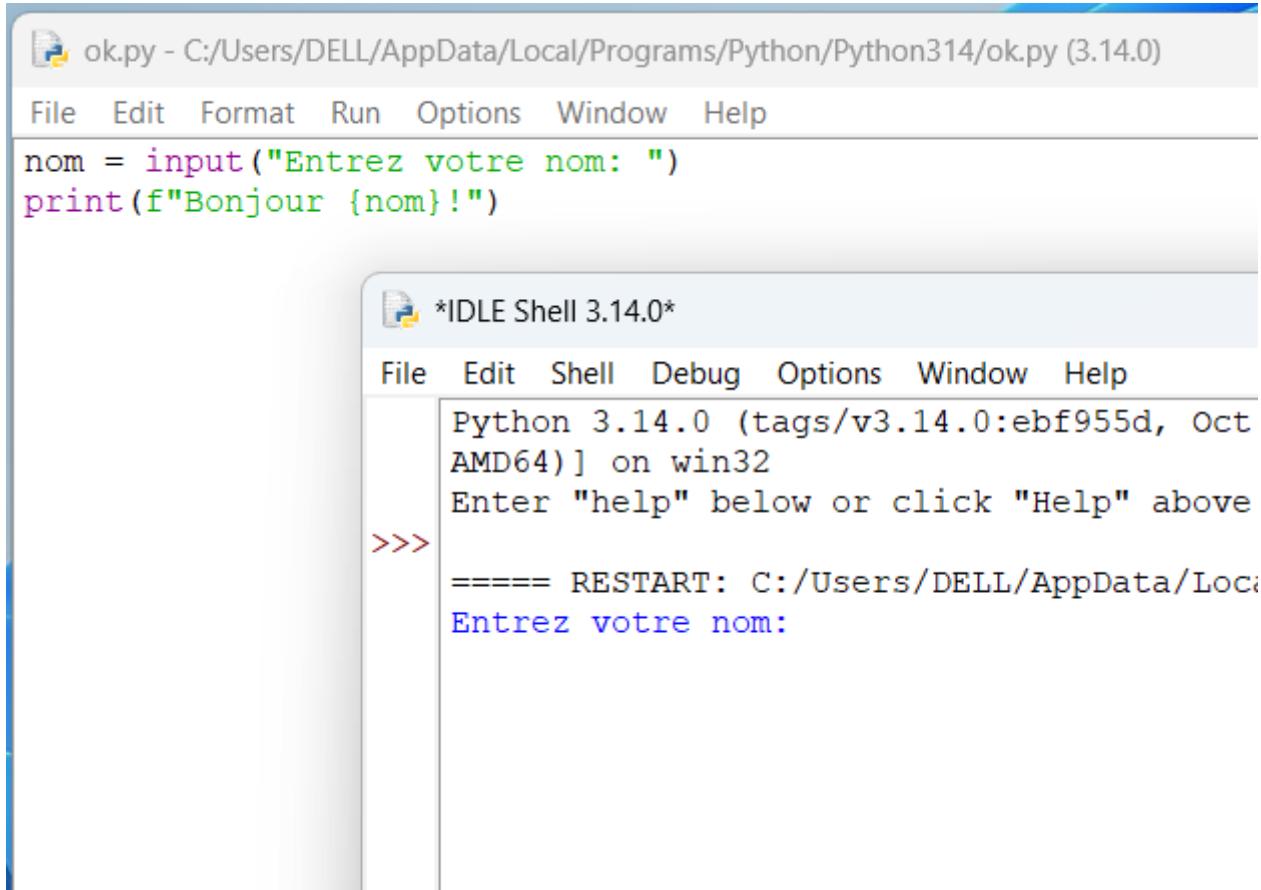
```
Python 3.14.0 (tags/v3.14.0:ebf9
AMD64) ] on win32
Enter "help" below or click "He
>>>
===== RESTART: C:/Users/DELL/App
Ali
25
Ali a 25 ans
>>> |
```

## La fonction input()

- Permet de récupérer une saisie
- Retourne toujours une chaîne de caractères
- Syntaxe : variable = input("message")
- Exemple :

```
nom = input("Entrez votre nom: ")
```

```
print(f"Bonjour {nom}!")
```

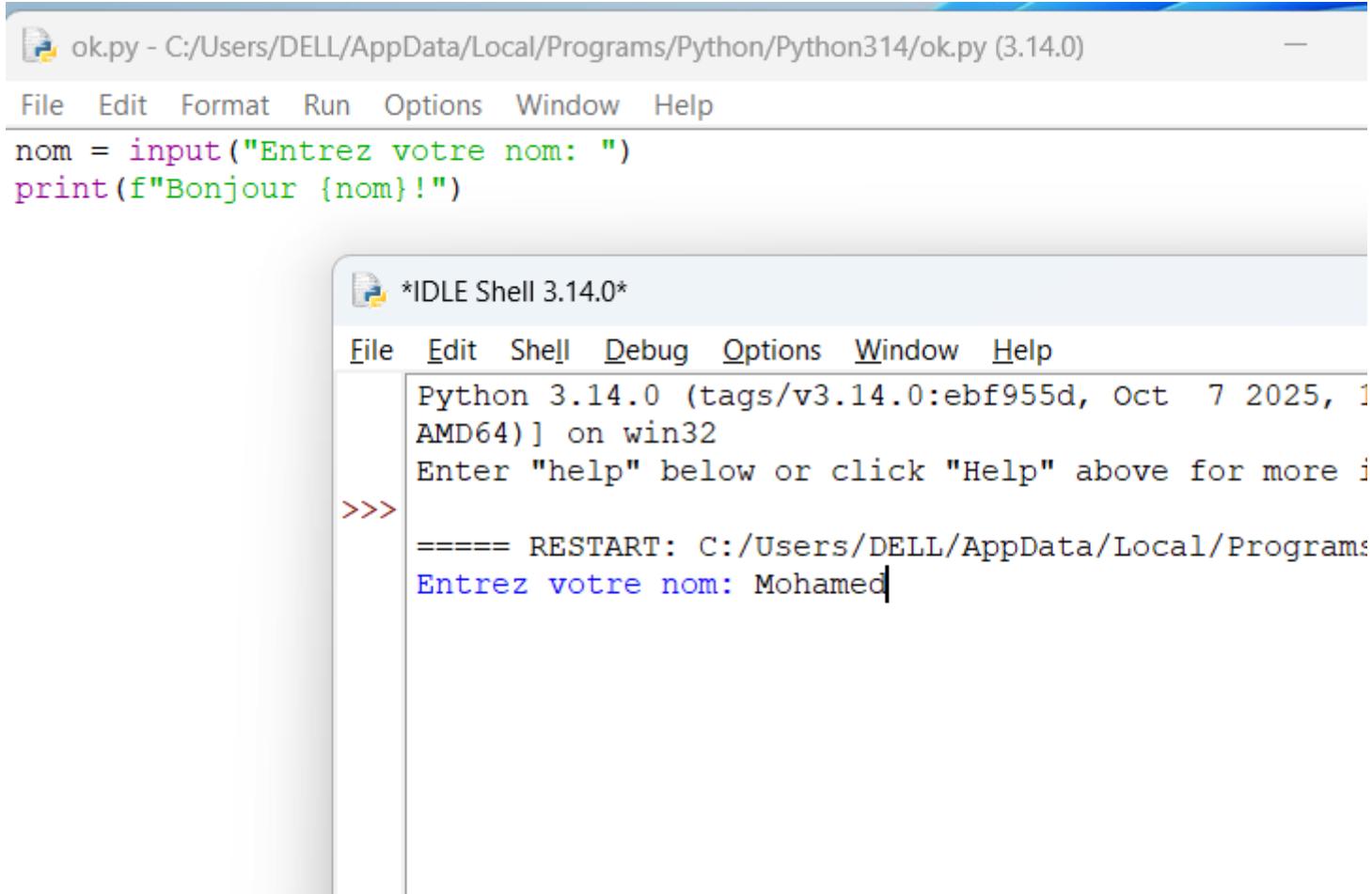


The image shows a screenshot of the Python IDLE environment. On the left, there is a script editor window titled "ok.py - C:/Users/DELL/AppData/Local/Programs/Python/Python314/ok.py (3.14.0)". The code inside the editor is:

```
nom = input("Entrez votre nom: ")
print(f"Bonjour {nom}!")
```

On the right, there is an interactive shell window titled "\*IDLE Shell 3.14.0\*". The shell displays the following output:

```
Python 3.14.0 (tags/v3.14.0:ebf955d, Oct
AMD64)] on win32
Enter "help" below or click "Help" above
>>>
===== RESTART: C:/Users/DELL/AppData/Local/
Entrez votre nom:
```

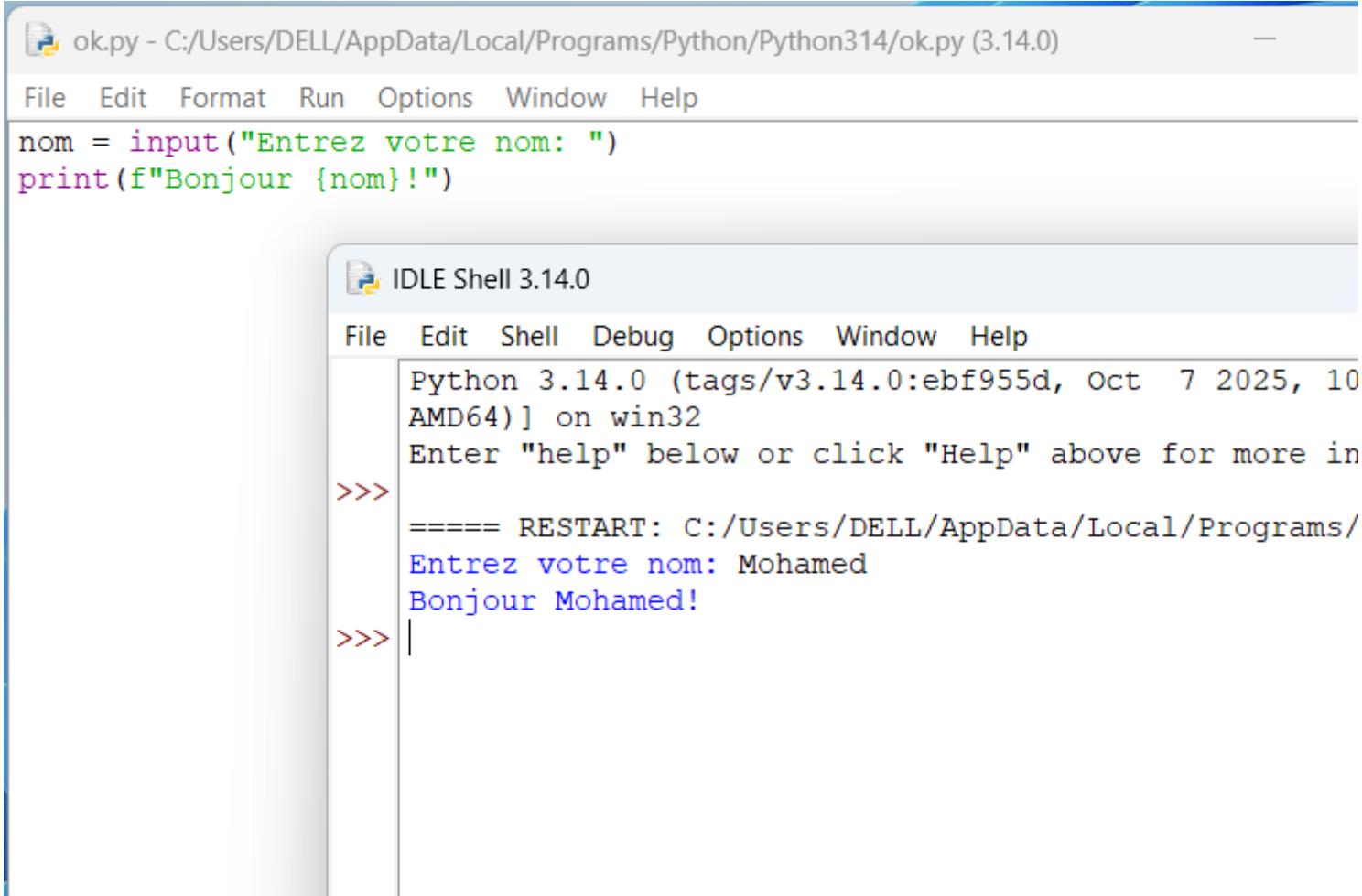


The image shows a screenshot of the Python IDLE environment. At the top, there is a window titled "ok.py - C:/Users/DELL/AppData/Local/Programs/Python/Python314/ok.py (3.14.0)". Below the title bar is a menu bar with File, Edit, Format, Run, Options, Window, and Help. The main area contains the following Python code:

```
nom = input("Entrez votre nom: ")
print(f"Bonjour {nom}!")
```

Below this, another window titled "\*IDLE Shell 3.14.0\*" is open. It also has a menu bar with File, Edit, Shell, Debug, Options, Window, and Help. The shell window displays the following output:

```
Python 3.14.0 (tags/v3.14.0:ebf955d, Oct 7 2025, 1
AMD64) ] on win32
Enter "help" below or click "Help" above for more i
>>>
===== RESTART: C:/Users/DELL/AppData/Local/Programs/
Entrez votre nom: Mohamed|
```



The image shows a screenshot of the Python IDLE environment. On the left, there is a code editor window titled "ok.py - C:/Users/DELL/AppData/Local/Programs/Python/Python314/ok.py (3.14.0)". The code inside the editor is:

```
nom = input("Entrez votre nom: ")
print(f"Bonjour {nom}!")
```

On the right, there is an interactive shell window titled "IDLE Shell 3.14.0". The shell displays the following output:

```
Python 3.14.0 (tags/v3.14.0:ebf955d, Oct 7 2025, 10
AMD64) ] on win32
Enter "help" below or click "Help" above for more in
>>> ===== RESTART: C:/Users/DELL/AppData/Local/Programs/
Entrez votre nom: Mohamed
Bonjour Mohamed!
>>> |
```

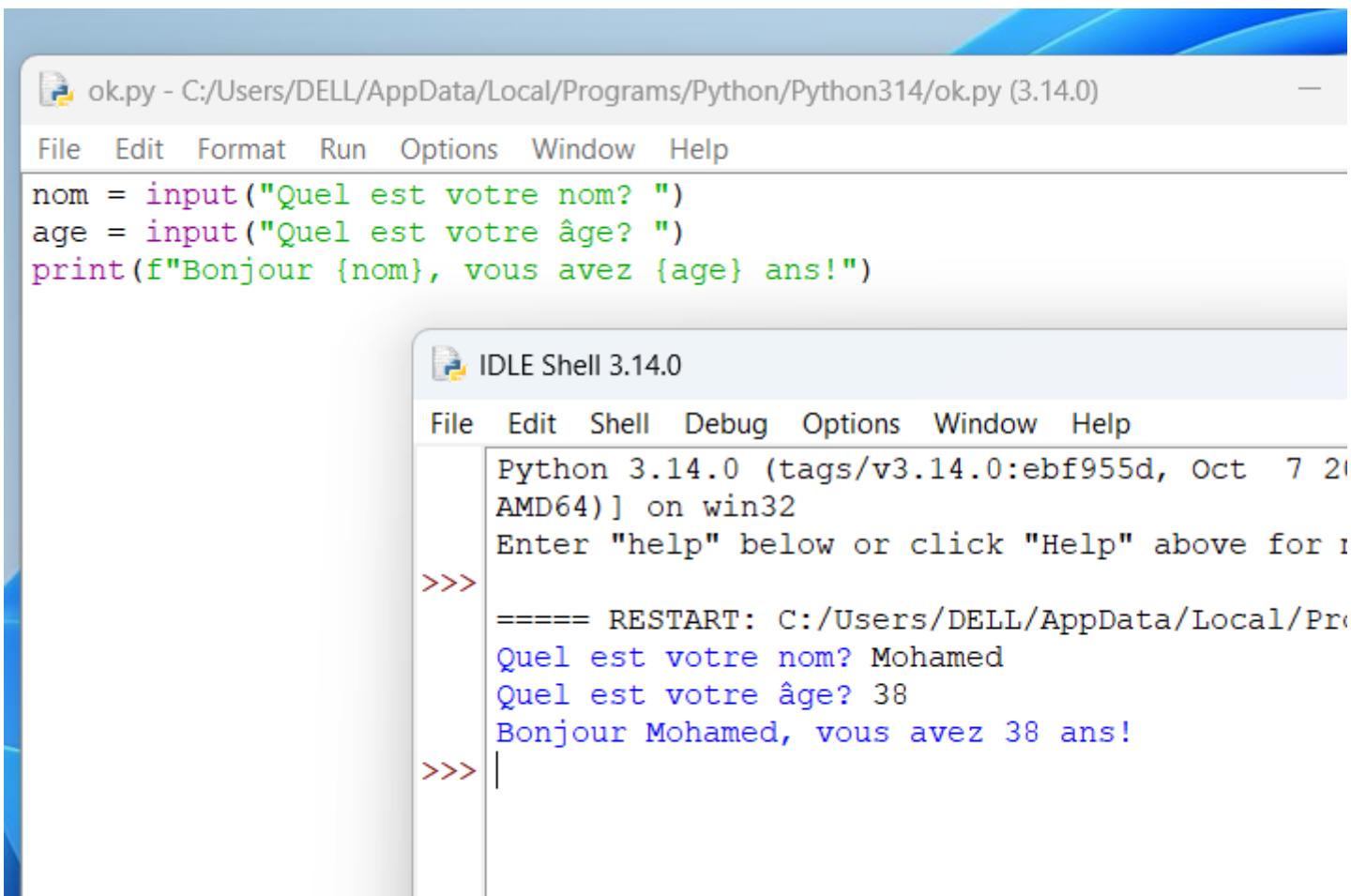
# Programme complet

## ■ Combinaison de tous les concepts

```
nom = input("Quel est votre nom? ")
```

```
age = input("Quel est votre âge? ")
```

```
print(f"Bonjour {nom}, vous avez {age} ans!")
```



The image shows a screenshot of the Python IDLE environment. At the top, there is a window titled "ok.py - C:/Users/DELL/AppData/Local/Programs/Python/Python314/ok.py (3.14.0)". Below the title bar is a menu bar with File, Edit, Format, Run, Options, Window, and Help. The main area contains the following Python code:

```
nom = input("Quel est votre nom? ")
age = input("Quel est votre âge? ")
print(f"Bonjour {nom}, vous avez {age} ans!")
```

Below this window is another window titled "IDLE Shell 3.14.0". It also has a menu bar with File, Edit, Shell, Debug, Options, Window, and Help. The shell area displays the following output:

```
Python 3.14.0 (tags/v3.14.0:ebf955d, Oct 7 2023, 16:45:46) [GCC 11.3.0 (Ubuntu 11.3.0-1ubuntu1~22.04.1)] on win32
Enter "help" below or click "Help" above for more information.
>>>
===== RESTART: C:/Users/DELL/AppData/Local/Programs/Python/Python314/ok.py =====
Quel est votre nom? Mohamed
Quel est votre âge? 38
Bonjour Mohamed, vous avez 38 ans!
>>> |
```

# Les commentaires en Python

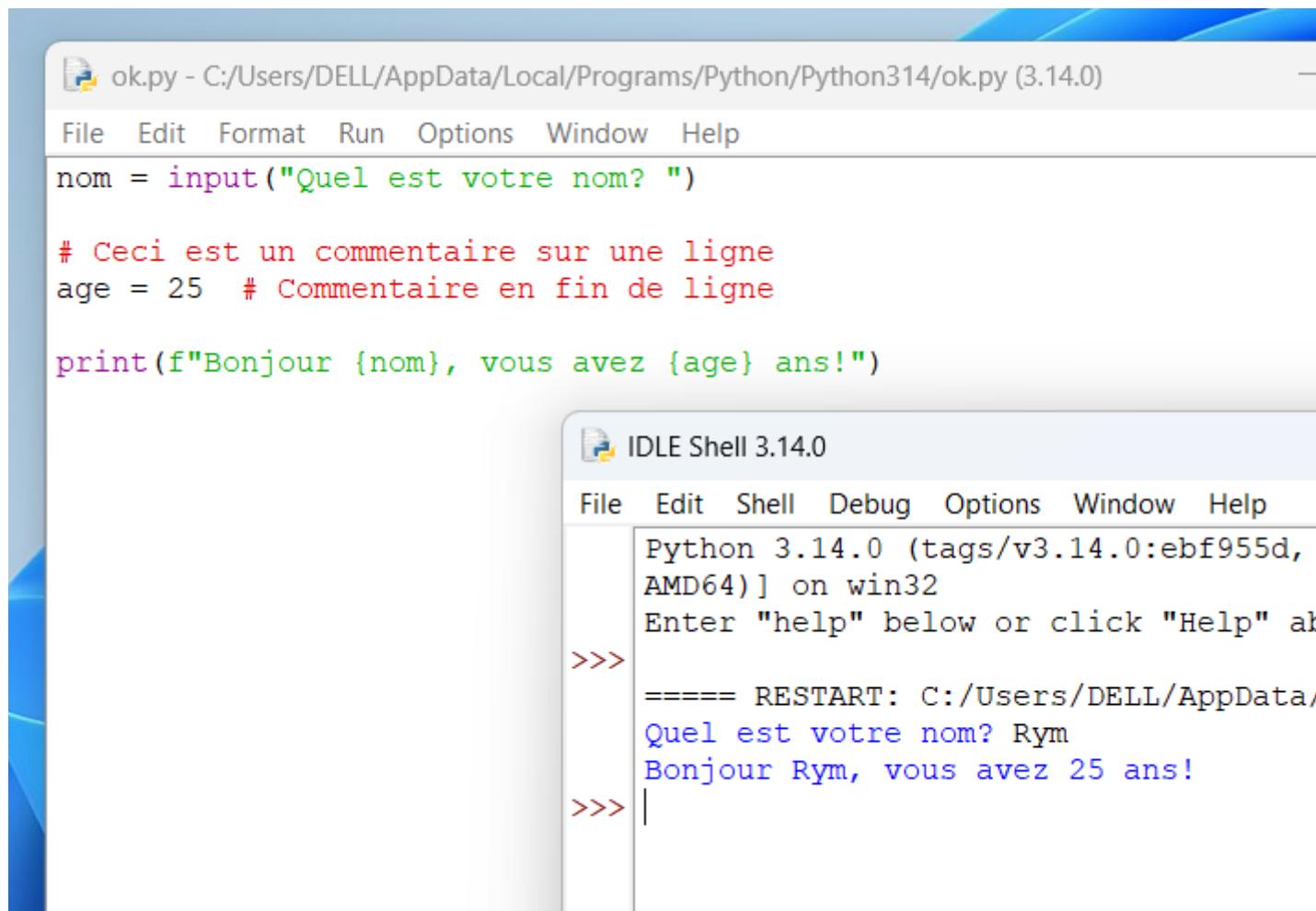
- Les commentaires sont ignorés par l'interpréteur Python
- Servent à expliquer le code pour les développeurs
- Deux types de commentaires :
  - Commentaires ligne unique avec #
  - Commentaires multi-lignes avec """ ou ""
- Bonnes pratiques :
  - Commenter le "pourquoi" plus que le "comment"
  - Garder les commentaires à jour
  - Éviter les commentaires évidents

# Exemples de commentaires

## ■ Commentaire simple :

```
# Ceci est un commentaire sur une ligne
```

```
age = 25 # Commentaire en fin de ligne
```



The image shows a screenshot of the Python IDLE environment. On the left, there is a code editor window titled "ok.py - C:/Users/DELL/AppData/Local/Programs/Python/Python314/ok.py (3.14.0)". The code in the editor is:

```
nom = input("Quel est votre nom? ")

# Ceci est un commentaire sur une ligne
age = 25 # Commentaire en fin de ligne

print(f"Bonjour {nom}, vous avez {age} ans!")
```

On the right, there is an "IDLE Shell 3.14.0" window. It displays the following interaction:

```
IDLE Shell 3.14.0
File Edit Shell Debug Options Window Help
Python 3.14.0 (tags/v3.14.0:ebf955d,
AMD64) ] on win32
Enter "help" below or click "Help" at
>>>
===== RESTART: C:/Users/DELL/AppData/
Quel est votre nom? Rym
Bonjour Rym, vous avez 25 ans!
>>> |
```

# Exemples de commentaires

## ■ Commentaire multi-lignes :

\*\*\*\*\*

Ceci est un commentaire  
qui s'étend sur  
plusieurs lignes

\*\*\*\*\*

The image shows a screenshot of the Python IDLE environment. On the left, there is a script editor window titled "ok.py - C:/Users/DELL/AppData/Local/Programs/Python/Python314/ok.py (3.14.0)". The code in the editor is:

```
nom = input("Quel est votre nom? ")
age = input("Quel est votre âge? ")

"""
Ceci est un commentaire
qui s'étend sur
plusieurs lignes
"""

print(f"Bonjour {nom}, vous avez {age} ans!")
```

On the right, there is an "IDLE Shell 3.14.0" window. It displays the Python version and architecture, followed by the interactive prompt and the user's input and output:

```
File Edit Shell Debug Options Window Help
Python 3.14.0 (tags/v3.14.0:ebf955
AMD64) ] on win32
Enter "help" below or click "Help"
>>>
===== RESTART: C:/Users/DELL/AppDa
Quel est votre nom? Ali
Quel est votre âge? 20
Bonjour Ali, vous avez 20 ans!
>>>
```

## ■ Exemples de commentaires

### ■ Exemple pratique :

```
# Calcul de la surface d'un rectangle
```

```
longueur = 10
```

```
largeur = 5
```

```
surface = longueur * largeur # Formule: L × l
```

```
print(f"Surface: {surface}") # Affichage du résultat
```

The image shows a screenshot of the Python IDLE environment. At the top, there is a script editor window titled "ok.py - C:/Users/DELL/AppData/Local/Programs/Python/Python314/ok.py (3.14.0)". The script contains the following code:

```
# Calcul de la surface d'un rectangle
longueur = 10
largeur = 5
surface = longueur * largeur # Formule: L × l
print(f"Surface: {surface}") # Affichage du résultat
```

Below the script editor is an interactive shell window titled "IDLE Shell 3.14.0". The shell displays the following output:

```
Python 3.14.0 (tags/v3.14.0:ebf955d, Oct 7 2025, AMD64) ] on win32
Enter "help" below or click "Help" above for more information
>>> ===== RESTART: C:/Users/DELL/AppData/Local/Programs/Python/Python314/ok.py
>>> Surface: 50
|
```