

# Wprowadzenie do tworzenia skryptów w języku Python

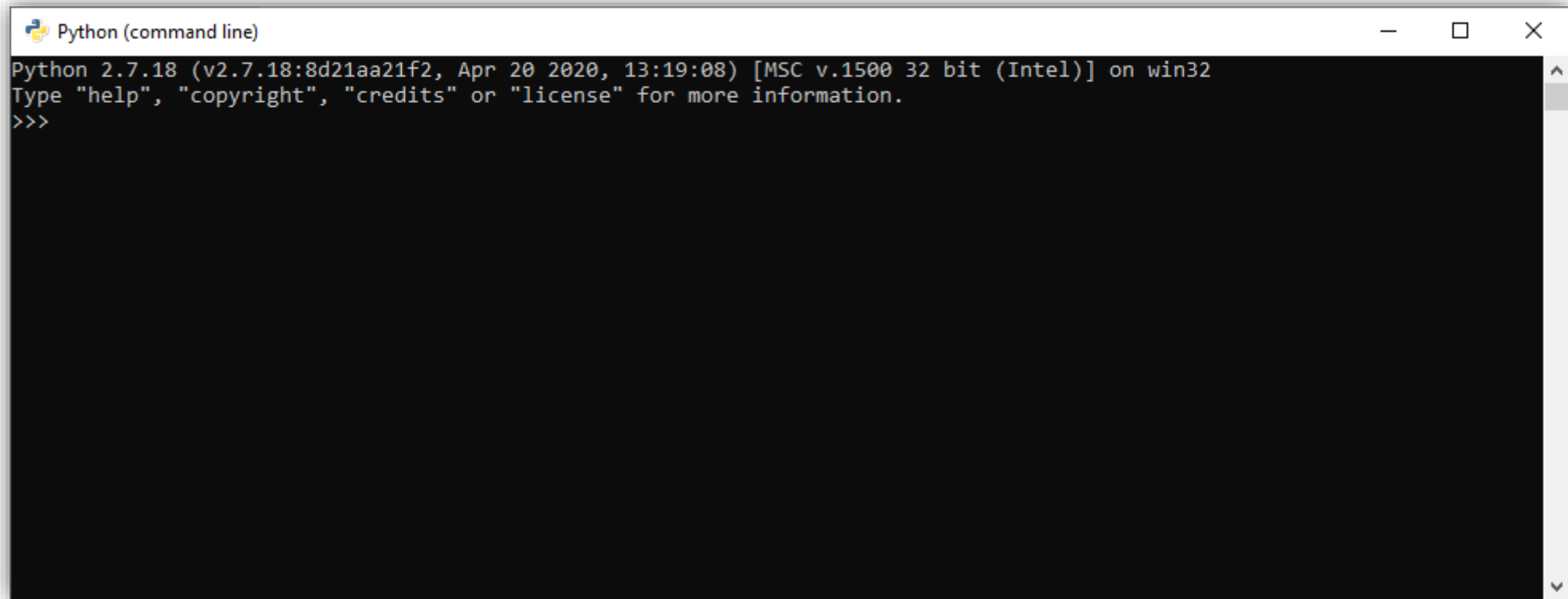
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# Dostęp do Konsoli Pythona

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# Wiersz poleceń (command line)

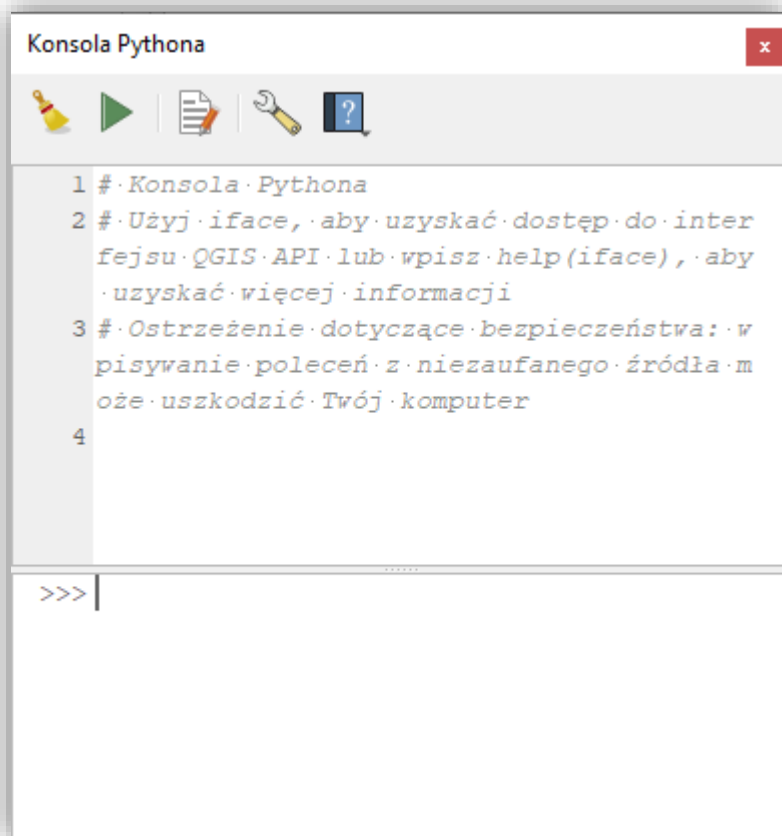
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A screenshot of a Windows command prompt window titled "Python (command line)". The window has a black background and white text. The text displayed is: "Python 2.7.18 (v2.7.18:8d21aa21f2, Apr 20 2020, 13:19:08) [MSC v.1500 32 bit (Intel)] on win32", "Type 'help', 'copyright', 'credits' or 'license' for more information.", and ">>>". The window includes standard Windows window controls (minimize, maximize, close) in the top right corner and a vertical scrollbar on the right side.

```
Python (command line)
Python 2.7.18 (v2.7.18:8d21aa21f2, Apr 20 2020, 13:19:08) [MSC v.1500 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

# Wewnątrz programu

## QGIS

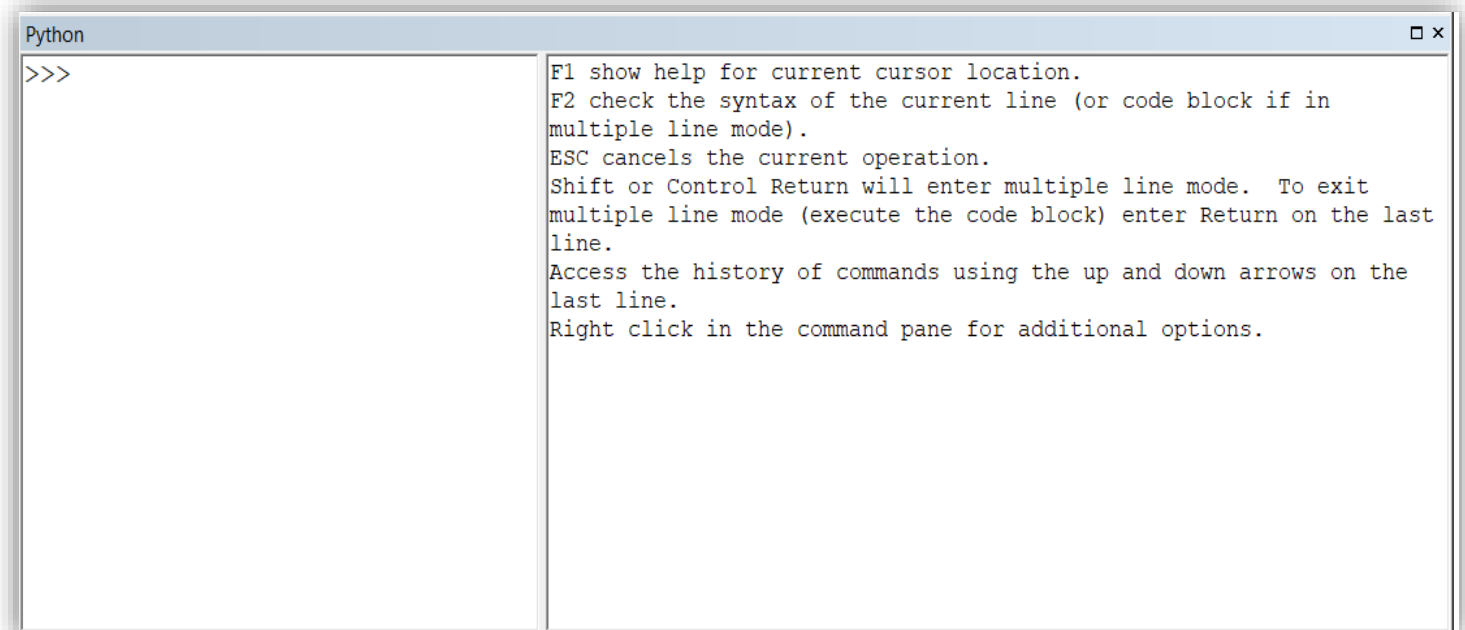


The screenshot shows the 'Konsola Pythona' (Python Console) window in QGIS. The window title is 'Konsola Pythona' with a close button. The toolbar contains icons for a bell, a play button, a document, a wrench, and a question mark. The main area contains the following text:

```
1 # Konsola Pythona
2 # Użyj iface, aby uzyskać dostęp do interfejsu QGIS API lub wpisz help(iface), aby uzyskać więcej informacji
3 # Ostrzeżenie dotyczące bezpieczeństwa: w pisywanie poleceń z niezaufanego źródła może uszkodzić Twój komputer
4
```

At the bottom, there is a prompt '>>>' followed by a vertical cursor bar.

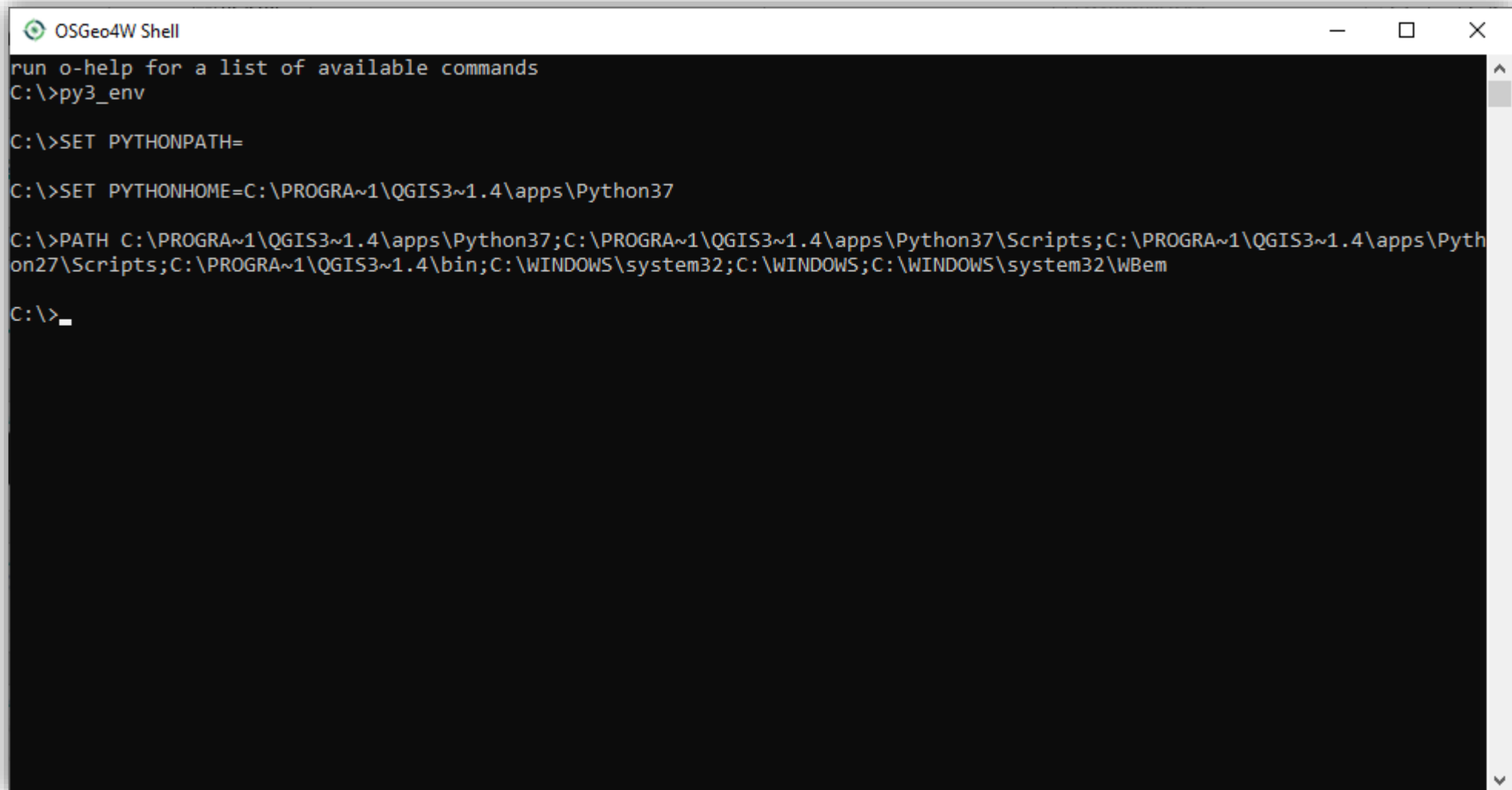
## ArcMap



The screenshot shows the 'Python' window in ArcMap. The window title is 'Python' with a close button. The main area is split into two panes. The left pane contains the prompt '>>>'. The right pane contains the following text:

```
F1 show help for current cursor location.
F2 check the syntax of the current line (or code block if in multiple line mode).
ESC cancels the current operation.
Shift or Control Return will enter multiple line mode. To exit multiple line mode (execute the code block) enter Return on the last line.
Access the history of commands using the up and down arrows on the last line.
Right click in the command pane for additional options.
```

# OSGeo4W Shell – instalowany z QGIS



```
OSGeo4W Shell
run o-help for a list of available commands
C:\>py3_env

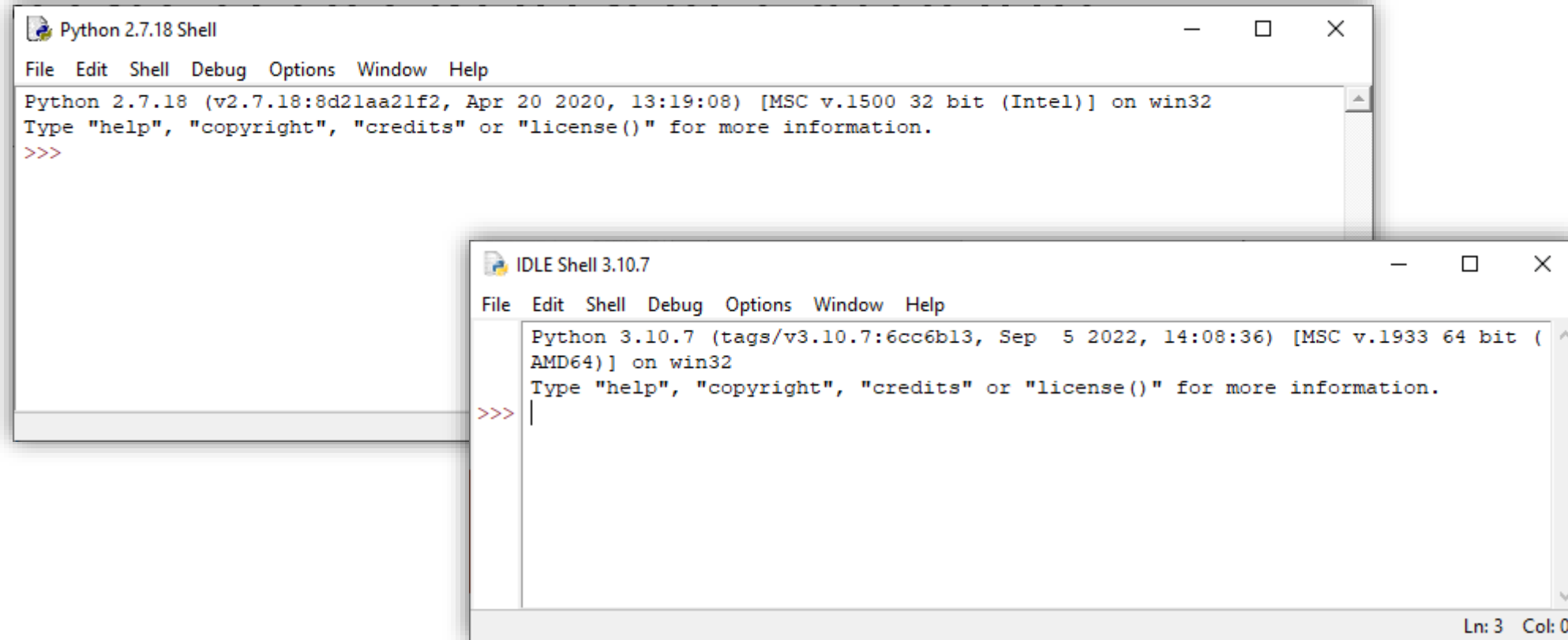
C:\>SET PYTHONPATH=

C:\>SET PYTHONHOME=C:\PROGRA~1\QGIS3~1.4\apps\Python37

C:\>PATH C:\PROGRA~1\QGIS3~1.4\apps\Python37;C:\PROGRA~1\QGIS3~1.4\apps\Python37\Scripts;C:\PROGRA~1\QGIS3~1.4\apps\Python37\Scripts;C:\PROGRA~1\QGIS3~1.4\bin;C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\system32\WBem

C:\>_
```

# IDLE (Python GUI) - wbudowany



# IDE

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- ang. Untegrated developmnet environment –Zintegrowane środowisko programistyczne
  - PyCharm
  - Visual Studio Code
  - Jupyter Notebook (Anaconda)
  - Spyder (Anaconda)
  - Notepad ++

# Dokumentacja i przykłady

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# Dokumentacja języka Python

<https://www.python.org/doc/>

<https://docs.python.org/2/>

Sprawdzenie wersji Pythona  
`print sys.version_info`

The image displays two screenshots of the Python documentation website. The top screenshot shows the Python 2.7.18 documentation page, with a dark blue header and a sidebar on the left. The bottom screenshot shows the Python 3.10.7 documentation page, with a white header and a sidebar on the left. Both screenshots show the 'Download' and 'Other resources' sections, and the main content area with a welcome message and a list of links to various parts of the documentation.

**Python 2.7.18 documentation**

Welcome! This is the documentation for Python 2.7.18.

**Python 3.10.7 documentation**

Welcome! This is the official documentation for Python 3.10.7.

**Parts of the documentation:**

- [What's new in Python 3.10?](#)  
*or all "What's new" documents since 2.0*
- [Installing Python Modules](#)  
*installing from the Python Package Index & other sources*
- [Tutorial](#)  
*start here*
- [Distributing Python Modules](#)  
*publishing modules for installation by others*
- [Library Reference](#)  
*keep this under your pillow*
- [Extending and Embedding](#)  
*tutorial for C/C++ programmers*
- [Language Reference](#)  
*describes syntax and language elements*
- [Python/C API](#)  
*reference for C/C++ programmers*
- [Python Setup and Usage](#)  
*how to use Python on different platforms*
- [Python HOWTOs](#)  
*in-depth documents on specific topics*
- [FAQs](#)  
*frequently asked questions (with answers!)*

# Przykładowy skrypt

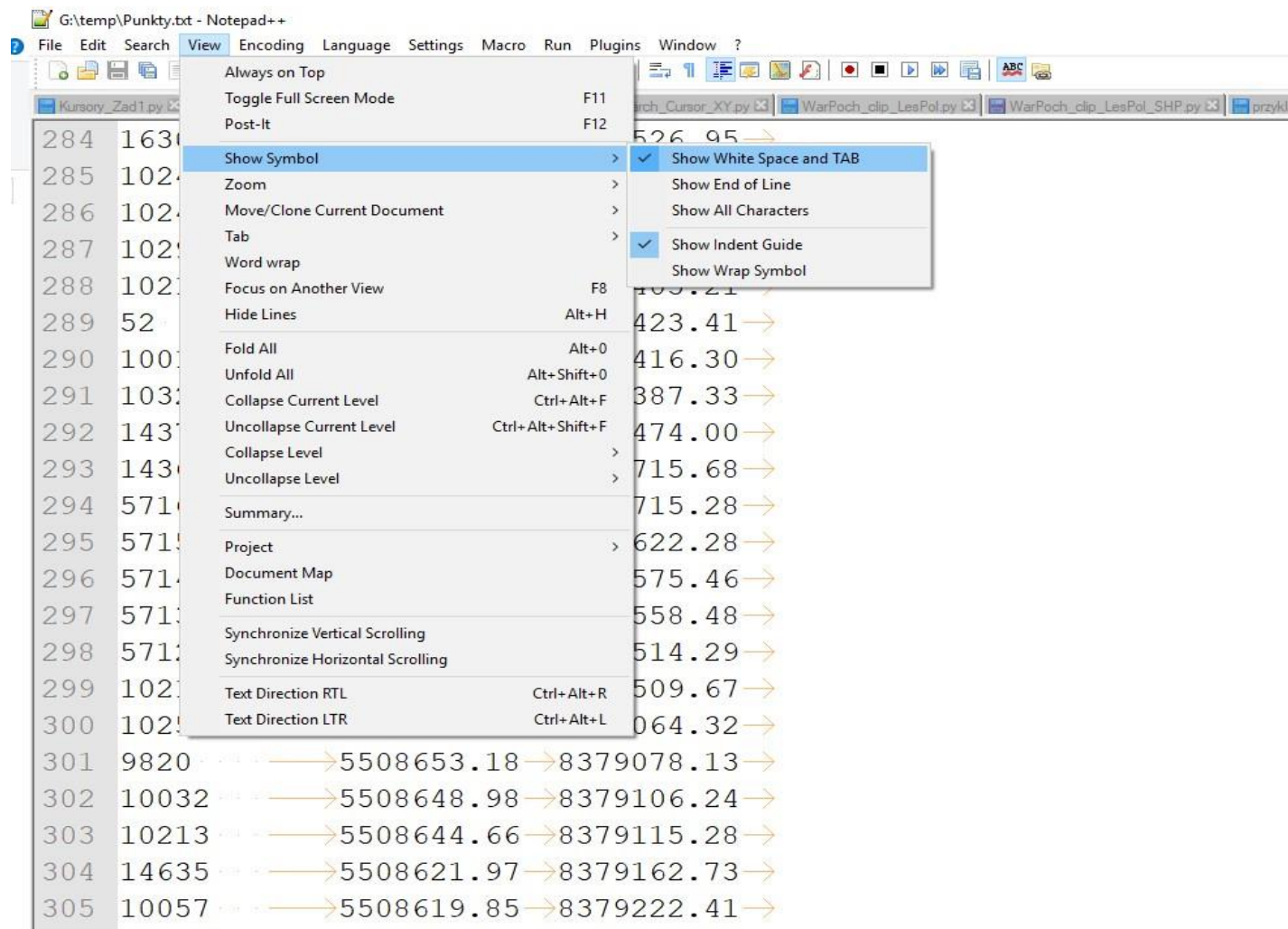
```
1 # -*- coding: cp1250 -*-
2 """
3 Informacje o skrypcie
4 autor: AP
5 data:08.01.2018
6 """
7 a="Zaczynam uczyć się Pythona!" #komentarz
8 #komentarz
9 print a
```

Zapisany jako plik tekstowy z rozszerzeniem \*.py  
np. przykladowy.py

Wynik:

```
>>> execfile(r'G:\przykladowy.py')
Zaczynam uczyć się Pythona!
```

# Wyświetlanie znaku TAB i spacji w Notepad++



# Kodowanie – Polskie znaki

---

```
# -*- coding: cp1250 -*-
```

```
# -*- coding: utf-8 -*-
```

# Zadania dodatkowe

---



# Choinka

---

```
x = '*'  
while len(x)<20:  
    print x.center(20,' ')  
    x =x+'*'
```





# Choinka z bombkami

```
import random
x = '|'
while len(x)<20:
    l_x =list(x)
    l_x[(random.randint(0,len(l_x))-1)]=
x = ''.join(l_x)
print x.center(20,' ')
x=x.replace('o','*')
x =x+'*'
```

```

      o
     *o
    *o*
   ***o
  *o***
 ****o*
*****o*
*****o*
******o
*****o*o*
*****o*o*
o*o*****
*****o*o**
***o*****o
**o*****o**
*****o*****o
*****o*****o
*****o*****o
*****o*****o
*****o*****o
```

```
import random
x = '* '
while len(x)<20:
    while len(x)<10:
        l_x =list(x)
        l_x[(random.randint(0,len(l_x))-1)]= 'o'
        x = ''.join(l_x)
        print x.center(20,' ')
        x=x.replace('o','*')
        x =x+'* '
    l_x =list(x)
    l_x[(random.randint(0,len(l_x))-1)]= 'o'
    l_x[(random.randint(0,len(l_x))-1)]= 'o'
    x = ''.join(l_x)
    print x.center(20,' ')
    x=x.replace('o','*')
    x =x+'* '
```

# Uruchamianie skryptów

---

Wiersz polecenia - python string\_zad\_3.py

Microsoft Windows [Version 10.0.19044.2006]  
(c) Microsoft Corporation. Wszelkie prawa zastrzeżone.

C:\Users\... >cd C:\Users\... \Desktop\

C:\Users\... \Desktop>python string\_zad\_3.py **uruchomienie skryptu**

('D\xeaby, buki, \x9cwierki i sosny/n \nPrzem\x13wicie gromkim g\xb3osem/n \nBy nikt si\xea nie odwa\xbfy\xb3/n \nU\x9cmi  
erci\xe6 was topora ciosem.', '\n')

Podaj drzewa zamiast 'Dřby': **- wprowadź tekst**

```
string_zad_3.py - Z:\01_PROJEKTY\SZKOLENIE_PYTHON\SKRYPTY\CWICZENIE_9\string_zad_3...
File Edit Format Run Options Window Help
# -*- coding: # Run Module F5 uruchomienie skryptu
wiersz = """Dęby, buki, świerki i sosny/n
Przemówcie gromkim głosem/n
By nikt się nie odważył/n
Uśmierć was topora ciosem."/n

print(wiersz, '\n')

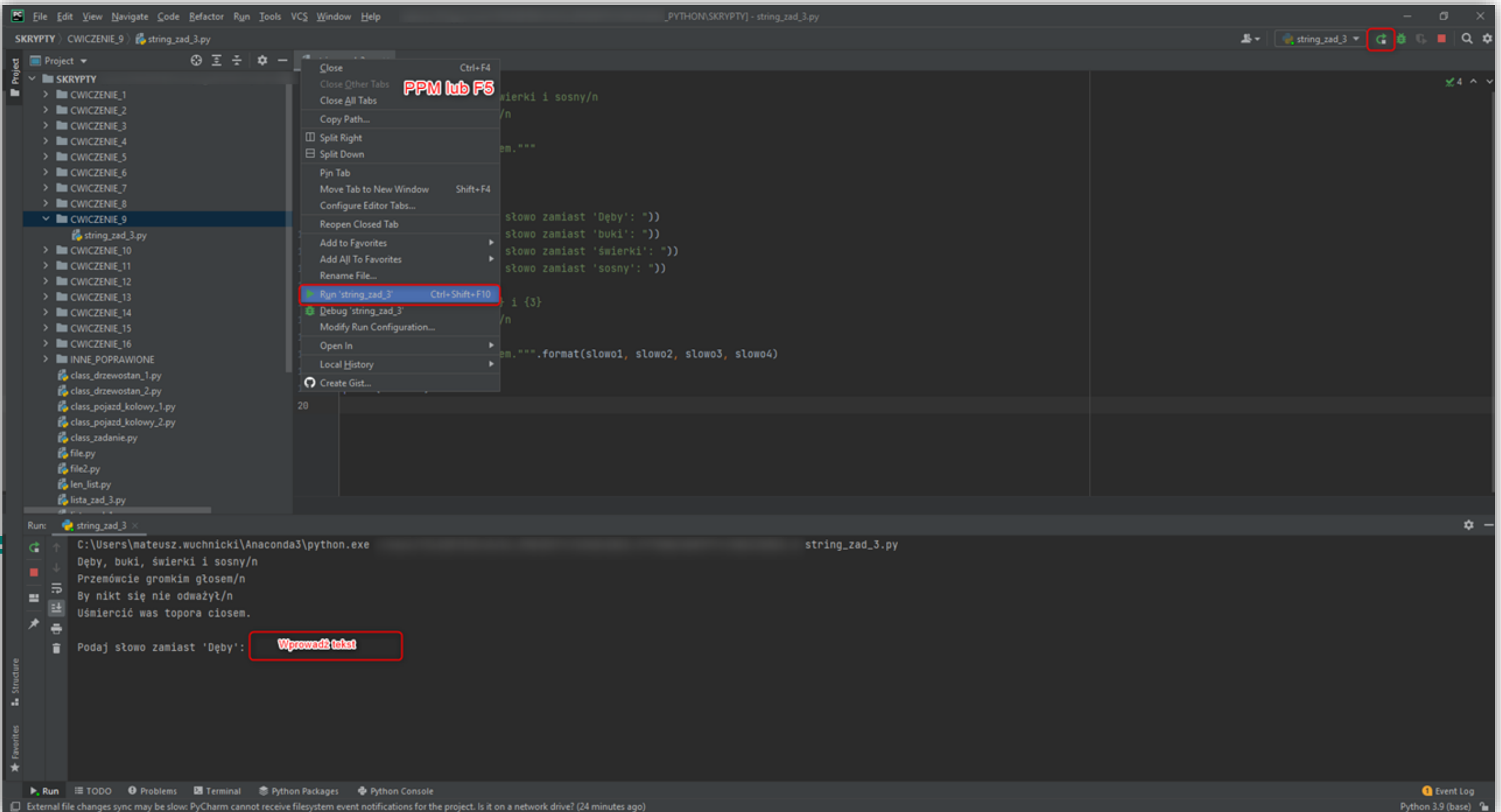
drzewa1 = str(input("Podaj drzewa zamiast 'Dęby': "))
drzewa2 = str(input("Podaj drzewa zamiast 'buk': "))
drzewa3 = str(input("Podaj drzewa zamiast 'świerki': "))
drzewa4 = str(input("Podaj drzewa zamiast 'sosny': "))

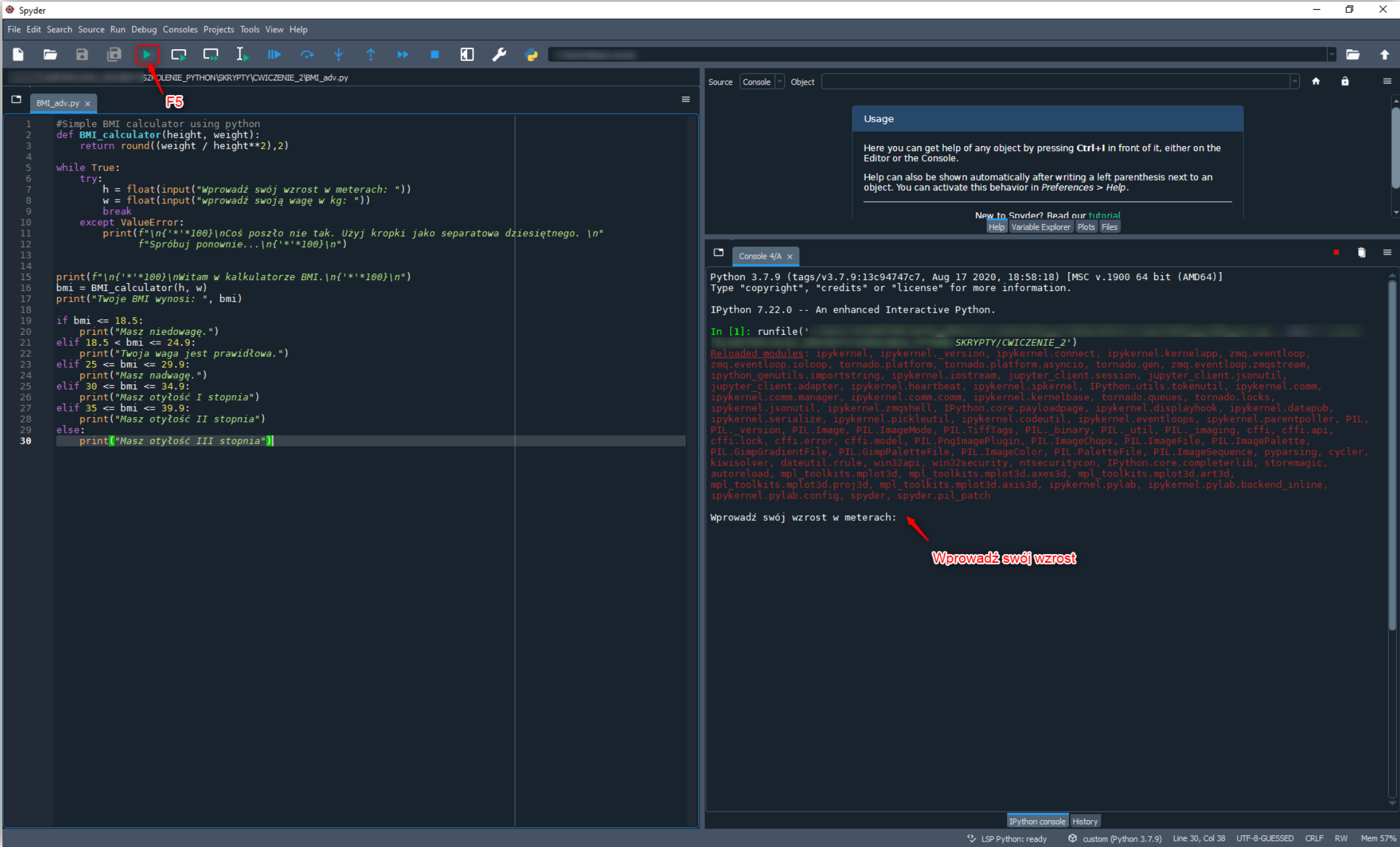
wiersz2 = """{0}, {1}, {2} i {3}
Przemówcie gromkim głosem/n
By nikt się nie odważył/n
Uśmierć was topora ciosem.""".format(drzewa1, drzewa2, drzewa3, drzewa4)

print(wiersz2)
```

```
*Python 3.8.2 Shell*
File Edit Shell Debug Options Window Help
Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 22:45:29) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: >>> string_zad_3.py =
Dęby, buki, świerki i sosny/n
Przemówcie gromkim głosem/n
By nikt się nie odważył/n
Uśmierć was topora ciosem.

Podaj drzewa zamiast 'Dęby': wprowadź tekst
```





# Wersje Pythona

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## Active Python Releases

For more information visit the [Python Developer's Guide](#).

Python version	Maintenance status	First released	End of support	Release schedule
3.10	bugfix	2021-10-04	2026-10	PEP 619
3.9	security	2020-10-05	2025-10	PEP 596
3.8	security	2019-10-14	2024-10	PEP 569
3.7	security	2018-06-27	2023-06-27	PEP 537
2.7	end-of-life	2010-07-03	2020-01-01	PEP 373

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## Looking for a specific release?

Python releases by version number:

Release version	Release date	Click for more	
<a href="#">Python 3.7.14</a>	Sept. 6, 2022	<a href="#">Download</a>	<a href="#">Release Notes</a>
<a href="#">Python 3.8.14</a>	Sept. 6, 2022	<a href="#">Download</a>	<a href="#">Release Notes</a>
<a href="#">Python 3.9.14</a>	Sept. 6, 2022	<a href="#">Download</a>	<a href="#">Release Notes</a>
<a href="#">Python 3.10.7</a>	Sept. 6, 2022	<a href="#">Download</a>	<a href="#">Release Notes</a>
<a href="#">Python 3.10.6</a>	Aug. 2, 2022	<a href="#">Download</a>	<a href="#">Release Notes</a>
<a href="#">Python 3.10.5</a>	June 6, 2022	<a href="#">Download</a>	<a href="#">Release Notes</a>
<a href="#">Python 3.9.13</a>	May 17, 2022	<a href="#">Download</a>	<a href="#">Release Notes</a>
<a href="#">Python 3.10.4</a>	March 24, 2022	<a href="#">Download</a>	<a href="#">Release Notes</a>

[View older releases](#)

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