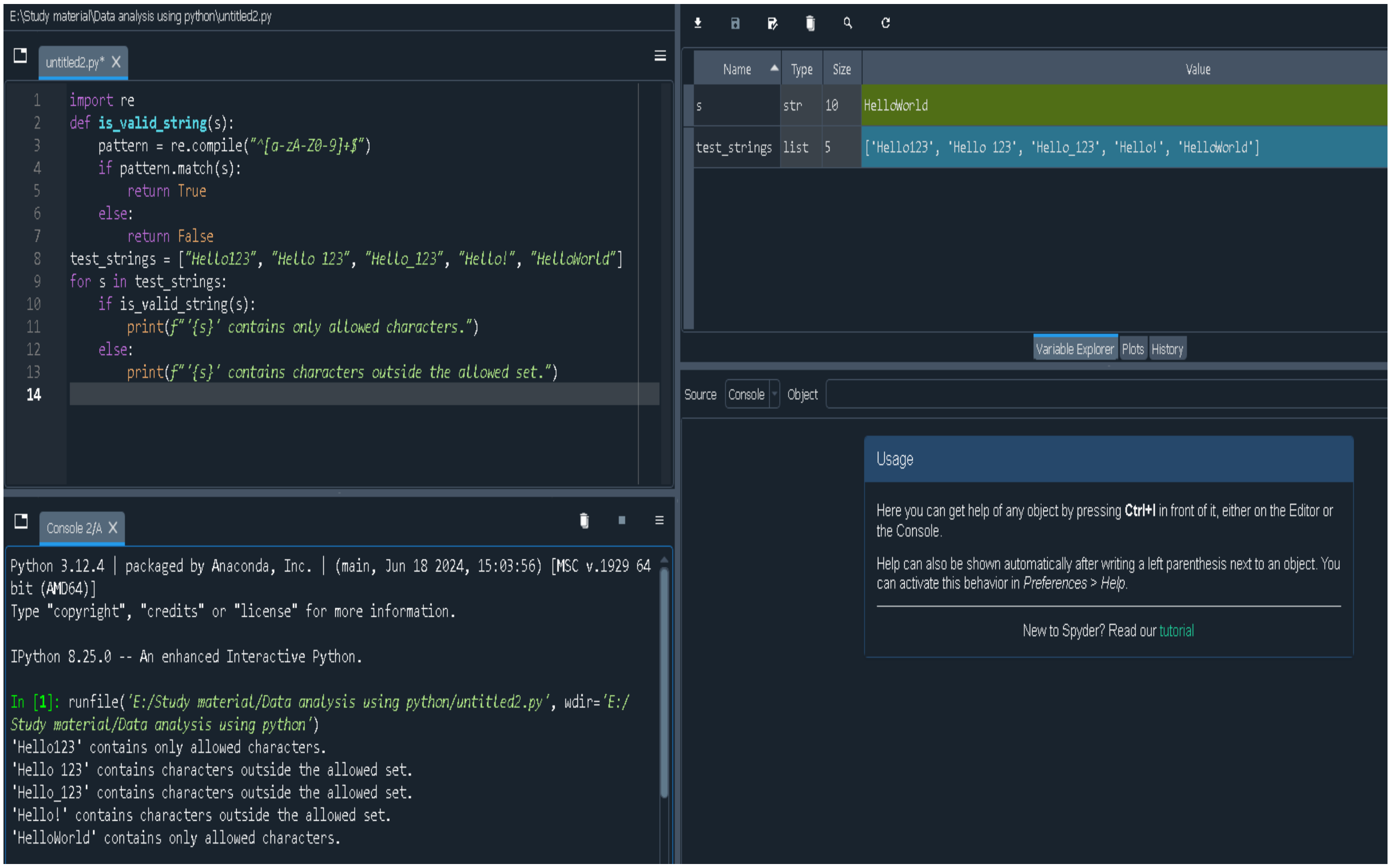
MODULE – 6 ASSIGNMENT

Regular Expression

1)Write a Python program to check that a string contains only a certain set of characters (in this case a-z, A-Z and 0-9)



E:\Study material\Data analysis using python\untitled2.py

```python
import re
def is_valid_string(s):
    pattern = re.compile("^[a-zA-Z0-9]+$")
    if pattern.match(s):
        return True
    else:
        return False
test_strings = ["Hello123", "Hello 123", "Hello_123", "Hello!", "HelloWorld"]
for s in test_strings:
    if is_valid_string(s):
        print(f"'{s}' contains only allowed characters.")
    else:
        print(f"'{s}' contains characters outside the allowed set.")
```

```
Python 3.12.4 | packaged by Anaconda, Inc. | (main, Jun 18 2024, 15:03:56) [MSC v.1929 64
bit (AMD64)]
Type "copyright", "credits" or "license" for more information.

IPython 8.25.0 -- An enhanced Interactive Python.

In [1]: runfile('E:/Study material/Data analysis using python/untitled2.py', wdir='E:/
Study material/Data analysis using python')
'Hello123' contains only allowed characters.
'Hello 123' contains characters outside the allowed set.
'Hello_123' contains characters outside the allowed set.
'Hello!' contains characters outside the allowed set.
'HelloWorld' contains only allowed characters.
```

Name	Type	Size	Value
s	str	10	HelloWorld
test_strings	list	5	['Hello123', 'Hello 123', 'Hello_123', 'Hello!', 'HelloWorld']

Usage

Here you can get help of any object by pressing **Ctrl+I** in front of it, either on the Editor or the Console.

Help can also be shown automatically after writing a left parenthesis next to an object. You can activate this behavior in *Preferences > Help*.

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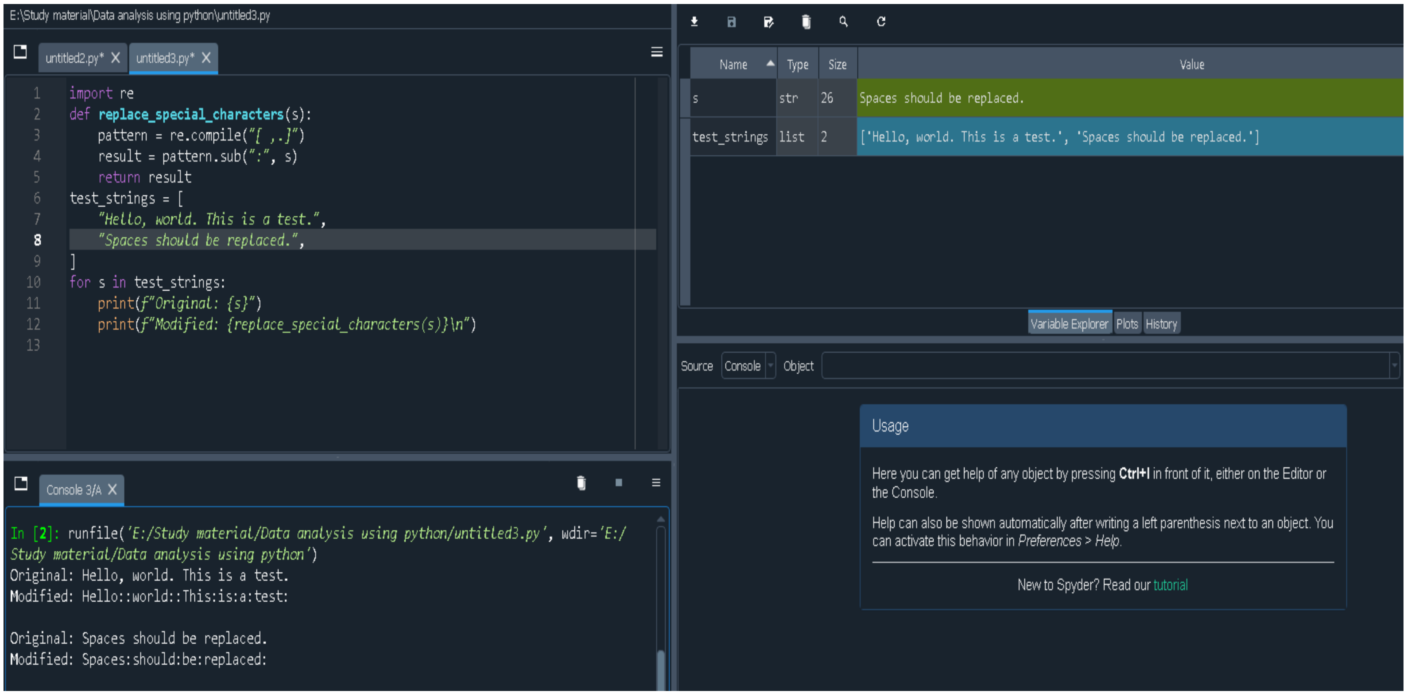
2) Write a Python program to replace all occurrences of space, comma, or dot with a colon.



E:\Study material\Data analysis using python\untitled3.py

```python
import re
def replace_special_characters(s):
    pattern = re.compile("[ ,.]")
    result = pattern.sub(":", s)
    return result
test_strings = [
    "Hello, world. This is a test.",
    "Spaces should be replaced.",
]
for s in test_strings:
    print(f"Original: {s}")
    print(f"Modified: {replace_special_characters(s)}\n")
```

Name	Type	Size	Value
s	str	26	Spaces should be replaced.
test_strings	list	2	['Hello, world. This is a test.', 'Spaces should be replaced.']

```
In [2]: runfile('E:/Study material/Data analysis using python/untitled3.py', wdir='E:/
Study material/Data analysis using python')
Original: Hello, world. This is a test.
Modified: Hello::world::This:is:a:test:

Original: Spaces should be replaced.
Modified: Spaces:should:be:replaced:
```

Usage

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