

Spyder

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C:\Users\Sachin\untitled24.py

```
1 def is_prime(n, i=2):
2     if n <= 2:
3         return n == 2
4     if n % i == 0:
5         return False
6     if i * i > n:
7         return True
8     return is_prime(n, i + 1)
9
10 num = 29
11 if is_prime(num):
12     print(f"{num} is a prime number.")
13 else:
14     print(f"{num} is not a prime number.")
```

Name	Type	Size	Value
a	int	1	10
arr	list	5	[10, 324, 45, 90, 9808]
b	int	1	20
destination_string	list	13	['H', 'e', 'l', 'l', 'o', ' ', 'W', 'o', 'r', 'l', 'd', '!', ...]
gcd	int	1	10
n_terms	int	1	10
num	int	1	29
s	str	13	Hello, World!
source_string	str	13	Hello, World!

Help Variable Explorer Plots

Console I/O X

```
In [13]: runfile('C:/Users/Sachin/untitled24.py', wdir='C:/Users/Sachin')
29 is a prime number.

In [14]:
```

Python Console History

Spyder: Checking for updates... Internal (Python 3.8.10) Completions: Internal LSP: Python Line 8, Col 30 UTF-8 CRLF RW Mem 88%

97°F Mostly sunny 13:17 04-06-2024

Spyder

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C:\Users\Sachin\untitled17.py

```
1 a="malayalam"
2 if a==a[::-1]:
3     print("it is palindrome")
4 else:
5     print("IT IS NOT PALINDROME")
```

Name	Type	Size	Value
a	str	9	malayalam

Help Variable Explorer Plots

Console I/O X

```
In [2]: runfile('C:/Users/Sachin/untitled17.py', wdir='C:/Users/Sachin')
it is palindrome

In [3]: runfile('C:/Users/Sachin/untitled17.py', wdir='C:/Users/Sachin')
it is palindrome

In [4]: |
```

Python Console History

Spyder: Checking for updates ~ Internal (Python 3.8.10) ~ Completions: internal ~ LSP: Python ~ Line 5, Col 11 ~ UTF-8 ~ CRLF ~ ROW ~ Mem: 82%

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Spdyer

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C:\Users\Sachin\untitled18.py

untitled17.py\* X untitled18.py\* X

```
1 import math
2 a=int(input("enter the num"))
3 b=int(input("enter the num"))
4 gcd=math.gcd(a,b)
5 print(gcd)
```

Name	Type	Size	Value
a	int	1	10
b	int	1	20
gcd	int	1	10

Help Variable Explorer Plots

Console 1/A X

```
In [2]: runfile('C:/Users/Sachin/untitled17.py', wdir='C:/Users/Sachin')
it is palindrome

In [3]: runfile('C:/Users/Sachin/untitled17.py', wdir='C:/Users/Sachin')
it is palindrome

In [4]: runfile('C:/Users/Sachin/untitled18.py', wdir='C:/Users/Sachin')
enter the num 10
enter the num20
10

In [5]: |
```

Python Console History

Spdyer: Checking for updates... Internal (Python 3.8.16) Completions: Internal LSP: Python Line 4, Col 10 UTF-8 CRLF RW Mem 85%

12:53 04-06-2024

Spyder

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C:\Users\Sachin\untitled19.py

```
1 def fibonacci(n):
2     if n <= 0:
3         return "Invalid input. The input should be a positive integer."
4     elif n == 1:
5         return 0
6     elif n == 2:
7         return 1
8     else:
9         return fibonacci(n - 1) + fibonacci(n - 2)
10
11 def print_fibonacci_series(n):
12     if n <= 0:
13         print("Invalid input. The input should be a positive integer.")
14     else:
15         print("Fibonacci Series:")
16         for i in range(1, n + 1):
17             print(fibonacci(i), end=" ")
18
19 n_terms = 10
20 print_fibonacci_series(n_terms)
```

Name	Type	Size	Value
a	int	1	10
b	int	1	20
gcd	int	1	10
n_terms	int	1	10

Help Variable Explorer Plots

Console I/O X

```
In [5]: runfile('C:/Users/Sachin/untitled19.py', wdir='C:/Users/Sachin')
Fibonacci Series:
0 1 1 2 3 5 8 13 21 34

In [6]:
```

Python Console History

Spyder: Checking for updates... Internal (Python 3.8.10) Completions: Internal LSP: Python Line 20, Col 12 UTF-8 CRLF RW Mem 88%

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04-06-2024

Spyder

File Edit Search Source Run Debug Consoles Projects Tools View Help

C:\Users\Sachin\untitled19.py

untitled17.py\* X untitled18.py\* X untitled19.py\* X

```
1 def is_armstrong(n):
2     if n < 0:
3         return "Invalid input. The input should be a positive integer."
4     elif n == 0:
5         return True
6     else:
7         digits = str(n)
8         length = len(digits)
9         sum_of_cubes = sum(int(digit) ** length for digit in digits)
10        return n == sum_of_cubes
11
12 def main():
13     num = int(input("Enter a number: "))
14     if is_armstrong(num):
15         print(f"{num} is an Armstrong number.")
16     else:
17         print(f"{num} is not an Armstrong number.")
18
19 if __name__ == "__main__":
20     main()
21
```

Name	Type	Size	Value
a	int	1	10
b	int	1	20
gcd	int	1	10
n_terms	int	1	10

Help Variable Explorer Plots

Console 1/A X

```
In [6]: runfile('C:/Users/Sachin/untitled19.py', wdir='C:/Users/Sachin')
Enter a number: 153
153 is an Armstrong number.

In [7]: |
```

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C:\Users\Sachin\untitled19.py

```
1 def is_armstrong(n):
2     if n < 0:
3         return "Invalid input. The input should be a positive integer."
4     elif n == 0:
5         return True
6     else:
7         digits = str(n)
8         length = len(digits)
9         sum_of_cubes = sum(int(digit) ** length for digit in digits)
10        return n == sum_of_cubes
11
12 def main():
13     num = int(input("Enter a number: "))
14     if is_armstrong(num):
15         print(f"{num} is an Armstrong number.")
16     else:
17         print(f"{num} is not an Armstrong number.")
18
19 if __name__ == "__main__":
20     main()
21
```

Name	Type	Size	Value
a	int	1	10
b	int	1	20
gcd	int	1	10
n_terms	int	1	10

Help Variable Explorer Plots

Console I/O X

```
In [6]: runfile('C:/Users/Sachin/untitled19.py', wdir='C:/Users/Sachin')
Enter a number: 153
153 is an Armstrong number.

In [7]:
```

Spyder: Checking for updates Internal (Python 3.8.10) Completions: Internal LSP: Python Line 21, Col 1 UTF-8 CRLF RW Mem 9.1%

Rain coming In about 3 hours

13:02 04-06-2024

Spyder

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C:\Users\Sachin\untitled21.py

```
1 def factorial(n):
2     if n == 0:
3         return 1
4     else:
5         return n * factorial(n - 1)
6 num = int(input("Enter a number: "))
7 print(f"The factorial of {num} is {factorial(num)}")
```

Name	Type	Size	Value
a	int	1	10
arr	list	5	[10, 324, 45, 90, 9808]
b	int	1	20
gcd	int	1	10
n_terms	int	1	10
num	int	1	5

Help Variable Explorer Plots

Console I/O X

```
In [8]: runfile('C:/Users/Sachin/untitled21.py', wdir='C:/Users/Sachin')
Enter a number: 5
The factorial of 5 is 120

In [9]: |
```

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Spyder

File Edit Search Source Run Debug Consoles Projects Tools View Help

C:\Users\Sachin\untitled21.py

```
1 def factorial(n):
2     if n == 0:
3         return 1
4     else:
5         return n * factorial(n - 1)
6 num = int(input("Enter a number: "))
7 print(f"The factorial of {num} is {factorial(num)}")
```

Name	Type	Size	Value
a	int	1	10
arr	list	5	[10, 324, 45, 90, 9808]
b	int	1	20
gcd	int	1	10
n_terms	int	1	10
num	int	1	5

Help Variable Explorer Plots

Console I/O X

```
In [8]: runfile('C:/Users/Sachin/untitled21.py', wdir='C:/Users/Sachin')
Enter a number: 5
The factorial of 5 is 120

In [9]: |
```

Spyder: Checking for updates... Internal (Python 3.8.10) Completions: Internal LSP: Python Line 5, Col 26 UTF-8 CRLF RW Mem 9.1%

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Spyder

File Edit Search Source Run Debug Consoles Projects Tools View Help

C:\Users\Sachin\untitled22.py

```
1 def copy_string(source, destination, index=0):
2     if index == len(source):
3         return destination
4     else:
5         destination[index] = source[index]
6         return copy_string(source, destination, index + 1)
7 source_string = "Hello, World!"
8 destination_string = [None] * len(source_string)
9
10 copy_string(source_string, destination_string)
11
12 print("Source string:", source_string)
13 print("Destination string:", ''.join(destination_string))
```

Name	Type	Size	Value
a	int	1	10
arr	list	5	[10, 324, 45, 90, 9808]
b	int	1	20
destination_string	list	13	['H', 'e', 'l', 'l', 'o', ',', ' ', 'W', 'o', 'r', 'l', 'd', '!', ...]
gcd	int	1	10
n_terms	int	1	10
num	int	1	5
source_string	str	13	Hello, World!

Help Variable Explorer Plots

Console I/O X

```
In [9]: runfile('C:/Users/Sachin/untitled22.py', wdir='C:/Users/Sachin')
Source string: Hello, World!
Destination string: Hello, World!

In [10]:
```

Python Console History

Spyder: Checking for updates Internal (Python 3.8.10) Completions: Internal LSP: Python Line 6, Col 59 UTF-8 CRLF RW Mem 90%

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Spyder

File Edit Search Source Run Debug Consoles Projects Tools View Help

C:\Users\Sachin\untitled23.py

```
1 def is_prime(n, i=2):
2     if n <= 2:
3         return n == 2
4     if n % i == 0:
5         return False
6     if i * i > n:
7         return True
8     return is_prime(n, i + 1)
9
10 def print_primes(limit):
11     if limit < 2:
12         return
13     print(2, end=" ")
14     for i in range(3, limit + 1, 2):
15         if is_prime(i):
16             print(i, end=" ")
17     print()
18     print_primes(20)
```

Name	Type	Size	Value
a	int	1	10
arr	list	5	[10, 324, 45, 90, 9886]
b	int	1	20
destination_string	list	13	['H', 'e', 'l', 'l', 'o', ' ', ' ', ' ', 'W', 'o', 'r', 'l', 'd', '...']
gcd	int	1	10
n_terms	int	1	10
num	int	1	5
s	str	13	Hello, World!
source_string	str	13	Hello, World!

Help Variable Explorer Plots

Console I/O X

```
In [11]: runfile('C:/Users/Sachin/untitled23.py', wdir='C:/Users/Sachin')
2 3 5 7 11 13 17 19

In [12]:
```

Python Console History

Spyder: checking for updates Internal (Python 3.8.10) Completions: Internal LSP: Python Line 17, Col 12 UTF-8 CRLF RW Mem 92%

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