

# Documentation Tool: Sphinx

## Introduction

### 1. What is Sphinx?

Sphinx is an open-source documentation generation tool that simplifies the process of creating and maintaining documentation for software projects, libraries, APIs, or any other text-based documentation needs. It's widely favored for its flexibility, extensibility, and compatibility with various markup languages like reStructuredText and Markdown.

### 2. Documentation

Click [here](#).

## Installation & Usage

### 1. How to install sphinx?

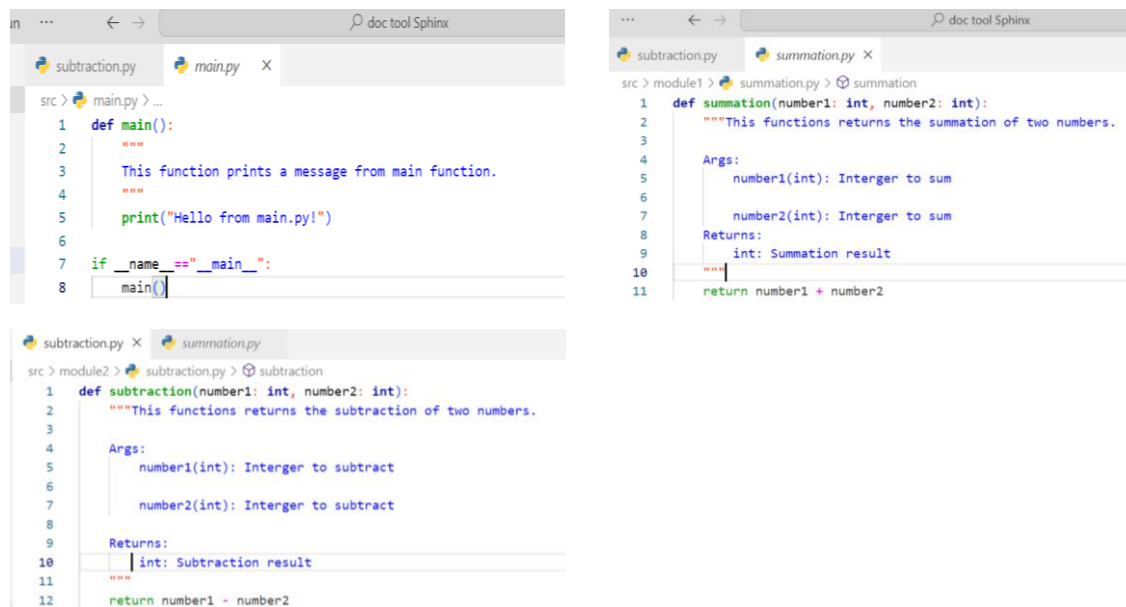
Click [here](#).

### 2. How to make sphinx documentation?

Click [here](#).

### 3. Source Code:

Here are the source codes of three python files the we've created: main, summation and subtraction.



The image displays three separate code editors showing Python source code. The first editor shows `main.py` with a `main()` function that prints a message. The second editor shows `summation.py` with a `summation` function that takes two integers and returns their sum. The third editor shows `subtraction.py` with a `subtraction` function that takes two integers and returns their difference. Each function includes docstrings and type hints.

```

src > main.py > ...
1 def main():
2     """
3     This function prints a message from main function.
4     """
5     print("Hello from main.py!")
6
7 if __name__ == "__main__":
8     main()

src > module1 > summation.py > summation
1 def summation(number1: int, number2: int):
2     """This functions returns the summation of two numbers.
3
4     Args:
5         number1(int): Interger to sum
6
7         number2(int): Interger to sum
8
9     Returns:
10         int: Summation result
11     """
12     return number1 + number2

subtraction.py > subtraction.py > subtraction
1 def subtraction(number1: int, number2: int):
2     """This functions returns the subtraction of two numbers.
3
4     Args:
5         number1(int): Interger to subtract
6
7         number2(int): Interger to subtract
8
9     Returns:
10         int: Subtraction result
11     """
12     return number1 - number2
  
```

## 4. Produced documentation

Here are the documentation created for those python files.

The image displays three screenshots of a Sphinx-generated documentation website for a project titled "Renting System". Each screenshot shows a different page in the documentation, illustrating the navigation and content structure.

**Top Screenshot: main module**

- Left Sidebar:** Contains a search bar and a "CONTENTS:" section with a tree view showing the project structure: `src` (expanded), `main module` (selected), `module1 package`, and `module2 package`.
- Main Content Area:**
  - Header: `src / main module` with a "View page source" link.
  - Title: **main module**
  - Code Snippet: `main.main()` with a "[source]" link.
  - Description: "This function prints a message from main function."
  - Navigation: "Previous" and "Next" buttons.
  - Footer: "© Copyright 2023, JU\_High\_Fives. Built with Sphinx using a theme provided by Read the Docs."

**Middle Screenshot: module1 package**

- Left Sidebar:** Similar to the first, but `module1 package` is selected in the contents list.
- Main Content Area:**
  - Header: `src / module1 package` with a "View page source" link.
  - Title: **module1 package**
  - Section: **Submodules**
  - Title: **module1.summation module**
  - Code Snippet: `module1.summation.summation(number1: int, number2: int)` with a "[source]" link.
  - Description: "This functions returns the summation of two numbers."
  - Args: `number1(int): Interger to sum` and `number2(int): Interger to sum`.
  - Returns: `int: Summation result`.
  - Section: **Module contents**
  - Navigation: "Previous" and "Next" buttons.
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**Bottom Screenshot: module2 package**

- Left Sidebar:** Similar to the first, but `module2 package` is selected in the contents list.
- Main Content Area:**
  - Header: `src / module2 package` with a "View page source" link.
  - Title: **module2 package**
  - Section: **Submodules**
  - Title: **module2.subtraction module**
  - Code Snippet: `module2.subtraction.subtraction(number1: int, number2: int)` with a "[source]" link.
  - Description: "This functions returns the subtraction of two numbers."
  - Args: `number1(int): Interger to subtract` and `number2(int): Interger to subtract`.
  - Returns: `int: Subtraction result`.
  - Section: **Module contents**
  - Navigation: "Previous" button.
  - Footer: "© Copyright 2023, JU\_High\_Fives. Built with Sphinx using a theme provided by Read the Docs."

## Pros & Cons of Sphinx

### 1. Why sphinx?

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- Markup language support
- Automatic document generation
- Extensibility
- Cross-referencing and indexing
- Multiple output formats
- Integration with version control systems

### 2. Why not sphinx?

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- Mastering the syntaxes and understanding the configuration options can take time for beginners.
- Complex for simple projects.
- Integration with non-python projects might require additional effort or workarounds.

Despite these limitations, Sphinx remains a powerful and widely used documentation tool in the software development community.