

Getting Started with Functions

Spoken Tutorial Project

<http://spoken-tutorial.org>

National Mission on Education through ICT

<http://sakshat.ac.in>

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Learning Objectives



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▶ Define a function



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- ▶ Define a function
- ▶ Define functions with arguments



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- ▶ Define a function
- ▶ Define functions with arguments
- ▶ Use docstrings



System Specifications



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▶ Ubuntu Linux 16.04



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- ▶ **Ubuntu Linux 16.04**
- ▶ **Python 3.4.3**



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- ▶ **Ubuntu Linux 16.04**
- ▶ **Python 3.4.3**
- ▶ **IPython 5.1.0**



Pre-requisite

To practice this tutorial, you should know how to -



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To practice this tutorial, you should know how to -

▶ **use tuples**



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To practice this tutorial, you should know how to -

- ▶ use tuples

If not, see the relevant Python tutorials on <http://spoken-tutorial.org>



Function



Function

- ▶ **A function is a portion of code within a larger program that performs a specific task**



Function

- ▶ A function is a portion of code within a larger program that performs a specific task
- ▶ **Functions are useful in reusing the code and eliminate code redundancy**



Function

- ▶ **Functions are also used to organise our code into manageable blocks**



Syntax for functions

```
def function_name(parameters) :  
    """docstring"""  
    statement(s)  
    return [expression]
```



Example: Function

$f(x)$ a mathematical function

$$f(x) = x^2$$

```
def f(x) :  
    return x*x
```



Docstring



- ▶ Documenting/commenting code is a good practice



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- ▶ Docstrings are triple quoted comments entered just after function definition
- ▶ It implies what the function does



Exercise

- ▶ Write a function **circle** which returns the **area** and **perimeter** of a circle with given radius **r**



Summary

- ▶ Define functions in Python
- ▶ Call the function by specifying the function name
- ▶ Write **docstrings** to a function by putting it as a triple quoted string



Summary

- ▶ **Pass parameters to a function**
- ▶ **Return values from a function**



Evaluation

1. How many arguments can be passed to a Python function?

- ▶ None
- ▶ One
- ▶ Two
- ▶ Any



Evaluation

1. How many arguments can be passed to a Python function?
 - ▶ None
 - ▶ One
 - ▶ Two
 - ▶ Any
2. Write a function to find the area of a rectangle



Solutions

1. Any

```
2. def rectangle_area(l, b):  
    return l * b
```



Forum to answer questions

- ▶ **Do you have questions in THIS Spoken Tutorial?**
- ▶ **Choose the minute and second where you have the question.**
- ▶ **Explain your question briefly.**
- ▶ **Someone from the FOSSEE team will answer them. Please visit**

<http://forums.spoken-tutorial.org/>



Forum to answer questions

- ▶ Questions not related to the Spoken Tutorial?
- ▶ Do you have general / technical questions on the Software?
- ▶ Please visit the FOSSEE Forum
<http://forums.fossee.in/>
- ▶ Choose the Software and post your question.



Textbook Companion Project

- ▶ **The FOSSEE team coordinates coding of solved examples of popular books**
- ▶ **We give honorarium and certificate to those who do this**

For more details, please visit this site:

<http://tbc-python.fossee.in/>



Acknowledgements

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- ▶ **It is supported by the National Mission on Education through ICT, MHRD, Government of India**
- ▶ **More information on this mission is available at:**

<http://spoken-tutorial.org/NMEICT-Intro>



THANK YOU!

For more information, visit our website
<http://fossee.in/>

