

Getting Started with Tuples

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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► Understand what tuples are



Learning Objectives

- ▶ Understand what **tuples** are
- ▶ **Compare tuples with lists**



Learning Objectives

- ▶ Understand what **tuples** are
- ▶ Compare tuples with **lists**
- ▶ **Know why they are needed**



Learning Objectives

- ▶ Understand what **tuples** are
- ▶ Compare tuples with **lists**
- ▶ Know why they are needed
- ▶ **Learn to use them**



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 practise this tutorial, you should know how to



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To practise this tutorial, you should know how to

- ▶ **run basic Python commands on the ipython console**



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- ▶ use lists



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- ▶ run basic Python commands on the ipython console
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If not, see the relevant Python tutorials on <http://spoken-tutorial.org>



Tuples



Tuples

- ▶ **Tuple** is a collection of elements similar to a list



Tuples

- ▶ **Tuple** is a collection of elements similar to a list
- ▶ **Tuple** uses parentheses, whereas list uses square brackets



Tuple

- Elements of a **tuple** cannot be changed once it is assigned



Tuple

- ▶ Elements of a **tuple** cannot be changed once it is assigned
- ▶ But in a **list**, elements can be changed



Tuple - Examples



Tuple - Examples

► $(1, 2.5)$ and $1, 2.5$ are same



Tuple - Examples

- ▶ $(1, 2.5)$ and $1, 2.5$ are same
- ▶ $(1,)$ and $1,$ are same



Tuple - Examples

- ▶ $(1, 2.5)$ and $1, 2.5$ are same
- ▶ $(1,)$ and $1,$ are same
- ▶ $((1,),)$ and $(1,),$ are same



Exercise 1

Given $a = 5$ and $b = 7$, swap the values of a and b



Summary

- ▶ **Tuples**
- ▶ Similarities of **tuples** with **lists**
- ▶ Immutability of **tuples**
- ▶ Concept of packing and unpacking of **tuples**



Evaluation

1. Define a tuple containing two values as given below.

The first value is integer 4 and the second value is float 2.5



Evaluation

2. If we type, $a = 5$,
then what is the datatype of a ?

- ▶ int
- ▶ float
- ▶ tuple
- ▶ string



Evaluation

3. If we type

$a = (2, 3)$

$a[0], a[1] = (3, 4)$

what is the output ?



Solutions

1. `(4, 2.5)`

2. `tuple`

3. `TypeError`



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/>



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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/>

