

# Sequence Data types

**Spoken Tutorial Project**

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

**National Mission on Education through ICT**

**<http://sakshat.ac.in>**

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# Learning Objectives



# Learning Objectives

## ► Sequence Data types



# Learning Objectives

- ▶ **Sequence Data types**
  - ▶ **List**



# Learning Objectives

- ▶ **Sequence Data types**
  - ▶ **List**
  - ▶ **String**



# Learning Objectives

- ▶ **Sequence Data types**
  - ▶ List
  - ▶ String
  - ▶ **Tuple**



# Learning Objectives

- ▶ **Sequence Data types**
  - ▶ **List**
  - ▶ **String**
  - ▶ **Tuple**
- ▶ **Accessing the above data types using index**



# Learning Objectives

- ▶ **Convert list to tuple and vice-versa**





# Learning Objectives

- ▶ **Convert list to tuple and vice-versa**
- ▶ **Convert string to list and vice-versa**



# 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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# Pre-requisite

To practise this tutorial, you should know how to

- ▶ run basic Python commands on the ipython console

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



# Sequence data types

- ▶ **Sequence data types are those in which elements are kept in a sequential order**



# Sequence data types

- ▶ **Sequence data types are those in which elements are kept in a sequential order**
- ▶ **The elements are accessed using index numbers**



# Sequence data types

- ▶ **The sequence datatypes in Python are**



# Sequence data types

- ▶ The sequence datatypes in Python are
  - ▶ **List**



# Sequence data types

- ▶ The sequence datatypes in Python are
  - ▶ List
  - ▶ String



# Sequence data types

- ▶ The sequence datatypes in Python are
  - ▶ List
  - ▶ String
  - ▶ Tuple



# Lists





# Lists

- ▶ List is a container that holds a number of objects in the given order



# Lists

- ▶ List is a container that holds a number of objects in the given order
- ▶ **Example:**  
`num_list = [1,2,3,4]`



# Lists

- ▶ List is a container that holds a number of objects in the given order
- ▶ Example:  
`num_list = [1,2,3,4]`
- ▶ A list can store data of any type



# Lists

- ▶ List is most useful when storing data of identical type



# Lists

- ▶ List is most useful when storing data of identical type
- ▶ **Examples:**



# Lists

- ▶ List is most useful when storing data of identical type
- ▶ Examples:
  - ▶ Name of books in a library



# Lists

- ▶ List is most useful when storing data of identical type
- ▶ Examples:
  - ▶ Name of books in a library
  - ▶ **Passengers on a flight**



# Exercise 1

- ▶ Check if 3 is an element of the list [1,7,5,3,4]
- ▶ Change the third element in the list to 21





# Exercise 2

- ▶ Convert the string “Elizabeth is queen of England” to “Elizabeth is queen”



# Summary

- ▶ Use the sequence data types
  - ▶ List
  - ▶ String
  - ▶ Tuple
- ▶ Split and join a list using `split()` and `join()` functions respectively



# Summary

- ▶ Convert **list** to **tuple** and vice-versa
- ▶ Convert **string** to **tuple** and vice-versa



# Evaluation

1. What is the major difference between **tuple** and **list**?
2. Split the below string on whitespaces  
**s = "Split this string on whitespaces"**



# Solution 1

- ▶ **Tuple** cannot change the value at a particular index
- ▶ But **list** can change the value
- ▶ **Tuple** is used to store data related to an item
- ▶ But **list** is typically used to store items of identical type



# Solution 2

```
string.split()
```



# 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

- ▶ Spoken Tutorial Project is a part of the Talk to a Teacher project
- ▶ 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/>

