

Mainpulating Lists

Spoken Tutorial Project

<http://spoken-tutorial.org>

National Mission on Education through ICT

<http://sakshat.ac.in>

Script: Aditya Palaparthu

Narration : Kiran K

IIT Bombay

23 October 2015



Objectives

In this tutorial we will learn,



Objectives

In this tutorial we will learn,

- ▶ **Learn the details of slicing and striding of lists.**



Objectives

In this tutorial we will learn,

- ▶ **Learn the details of slicing and striding of lists.**
- ▶ **Sort and reverse lists.**



System Specifications



System Specifications

- ▶ **Ubuntu Linux 14.04**



System Specifications

- ▶ **Ubuntu Linux 14.04**
- ▶ **Python 2.7.6**



System Specifications

- ▶ **Ubuntu Linux 14.04**
- ▶ **Python 2.7.6**
- ▶ **IPython 4.0.0**



Pre-requisites

To practise this tutorial, you should know how to

- ▶ run basic Python commands on the ipython console
- ▶ use lists

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



Exercise 1

Obtain the primes less than 10, from the list `primes`.



Slicing

`p[start:stop]`

- ▶ Returns all elements of `p` between `start` and `stop`
- ▶ The element with index equal to `stop` is not included.



Exercise 2

Obtain all the multiples of three from the list `num`.



Solution 2

```
num[::3]
```



Exercise 3

Given a list of marks of students in an examination, obtain a list with marks in descending order.

```
marks = [99, 67, 47, 100, 50, 75, 62]
```



Summary

In this tutorial, we have learnt to,

- ▶ **Obtain parts of lists using slicing and striding.**



Summary

In this tutorial, we have learnt to,

- ▶ Obtain parts of lists using slicing and striding.
- ▶ Sort lists using the `sort` method.



Summary

In this tutorial, we have learnt to,

- ▶ Obtain parts of lists using slicing and striding.
- ▶ Sort lists using the `sort` method.
- ▶ Use the method `reverse` to reverse the lists.



Evaluation

1. Given the list `primes`,

```
primes = [2, 3, 5, 7, 11,  
13, 17, 19, 23, 29]
```



Evaluation

1. Given the list `primes`,

```
primes = [2, 3, 5, 7, 11,  
13, 17, 19, 23, 29]
```

How do you obtain the last 4 primes?



Evaluation

1. Given the list `primes`,
`primes = [2, 3, 5, 7, 11, 13, 17, 19, 23, 29]`
How do you obtain the last 4 primes?
2. Given a list, `p`, of unknown length, obtain the first 3 (or all, if there are fewer) characters of it.



Solutions

1. `primes[-4:]`



Solutions

1. `primes[-4:]`

2. `p[:3]`



Solutions

1. `primes[-4:]`

2. `p[:3]`



Forum to ask 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/>

