

# Manipulating Lists

**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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- ▶ **Slicing and striding of lists**



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- ▶ Slicing and striding of lists
- ▶ Sort and reverse lists



# System Specifications



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- ▶ **Python 3.4.3**



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- ▶ **Python 3.4.3**
- ▶ **IPython 5.1.0**





# Pre-requisites

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



# Slicing



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- ▶ The element with the `stop` index value will not be included



# Exercise 1

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

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



# Exercise 2

```
num = [0, 1, 2, 3, 4, 5, 6,  
7, 8, 9, 10, 11, 12, 13]
```

Obtain all the multiples of **3** from the list **num**



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- ▶ Python provides a built-in function called **sorted**
- ▶ **sorted()** sorts the list which is passed as an argument to it
- ▶ **It returns a new sorted list**



# Exercise 3

- ▶ Given below is the list of marks of student in an examination  
`marks=[99, 67, 47, 100, 50, 75, 62]`
- ▶ Obtain a list with marks in descending order



# Summary

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





# Evaluation

1. `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 characters of it



# Solutions

1. `primes[-4:]`

2. `p[:3]`



# 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/>

