Sets

Spoken Tutorial Project
http://spoken-tutorial.org
National Mission on Education through ICT

http://sakshat.ac.in

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- ▶ **Create sets from lists.**
- ▶ **Perform union, intersection and symmetric difference operations.**
- ▶ **Check if a set is a subset of other.**
- ▶ **Understand various similarities with lists like length and containership.**

System Specifications

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- **Ubuntu Linux 14.04**

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- `Python 2.7.6`
- `IPython 4.0.0`

Pre-requisite

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

- **Given a list of marks,**
  marks = [20, 23, 22, 23,
  20, 21, 23]

- Given a list of marks,
  `marks = [20, 23, 22, 23, 20, 21, 23]`
- List all the duplicates.

Summary

In this tutorial, we have learnt to,

- Make `sets` from `lists`.
- Perform union, intersection and symmetric difference operations. by using the operators '|', '&' and '^' respectively.

Summary

- **Check if a set is a subset of other using the '<'and '<=' operators.**

Summary

- **Check if a set is a subset of other using the '$<$'and '$<=$' operators.**

- **Understand various similarities with lists like length and containership.**

1. If a = [1, 1, 2, 3, 3, 5, 5, 8]. What is set(a)?

   - set([1, 1, 2, 3, 3, 5, 5, 8])
   - set([1, 2, 3, 5, 8])
   - set([1, 2, 3, 3, 5, 5])
   - Error

2. **Given,**
   odd = set([1, 3, 5, 7, 9])
   and squares = set([1, 4, 9, 16]).

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   odd = set([1, 3, 5, 7, 9])
   and squares = set([1, 4, 9,
   16]). How do you find the
   symmetric difference of these two
   sets?**

Evaluation

2. **Given,**
   `odd = set([1, 3, 5, 7, 9])`
   and `squares = set([1, 4, 9, 16])`. How do you find the symmetric difference of these two sets?

3. **"a" is a set. how do you check if a variable "b" exists in "a"?**

1. `set([1, 2, 3, 5, 8])`

2. `odd ^ squares`

3. `b in a`

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/

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- **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/**