Statistics

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

http://sakshat.ac.in

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- ▶ **Do statistical operations in Python.**
- ▶ **Sum a set of numbers.**
- ▶ **Find their mean, median and standard deviation.**

System Specifications

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- `IPython 4.0.0`

Pre-requisites

To practise this tutorial, you should know how to -

- **load data from files.**
- **use Lists**
- **and access pieces of Arrays**

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

Data Structure

A;015163;JOSEPH RAJ S;083;042;47;00;72;244;;;

The following are the fields in any given line.

- ► **Region Code: 'A'**
- ► **Roll Number: 015163**
- ► **Name: JOSEPH RAJ S**
- ► **Marks of 5 subjects: English 083,Hindi 042,Maths 047,Science 035,Social 072**
- ► **Total marks 244**

Exercise 1

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▶ **In the given file football.txt, one column is player name, second is goals at home and third goals away.**

1. Find the total goals for each player
2. Mean home and away goals
3. Standard deviation of home and away goals

```
L=loadtxt('football.txt',usecols=
            delimiter=',')
sum(L,1)
mean(L,0)
std(L,0)
```

Summary

In this tutorial, we have learnt to -

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In this tutorial, we have learnt to -

- ▶ Do the standard statistical operations sum, mean, median and standard deviation in Python

Assignment

1. **Given a two dimensional list,**
   two_dimensional_list=[[3,5,8,2,1],[4,3,6,2,1]]
   how do you calculate the mean of each row?

2. **Calcutate the median of the given list?**
   student_marks=[74,78,56,87,91,82]

3. **Suppose there is a file with 6 columns but we wish to load text only in columns 2,3,4,5. How do we specify that?**

1. **mean(two_dimensional_list,1)**

2. **median(student_marks)**

3. **We use the parameter usecols=(2,3,4,5)**

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

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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/