

# Handling Errors & Exceptions

**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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- ▶ **Understand errors and exceptions**



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- ▶ Understand errors and exceptions
- ▶ Handle errors and exceptions



# 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 -

▶ **use functions**



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To practise this tutorial, you should know how to -

- ▶ use functions
- ▶ **carry-out testing and debugging**



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# Pre-requisite

To practise this tutorial, you should know how to -

- ▶ use functions
- ▶ carry-out testing and debugging

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



# Errors and Exceptions

**In Python there are two kinds of errors**



# Errors and Exceptions

In Python there are two kinds of errors

▶ **Syntax errors**



# Errors and Exceptions

In Python there are two kinds of errors

- ▶ Syntax errors
- ▶ **Exceptions**



# Syntax Errors



# Syntax Errors

- ▶ **Syntax errors are caused by incorrect usages and these are detected by parser**

**Example:** `if True print("done")`



# Syntax Errors

- ▶ **Syntax errors are caused by incorrect usages and these are detected by parser**

**Example: `if True print("done")`**

- ▶ **It will give `SyntaxError` since colon is missing after `True`**



# Exceptions



# Exceptions

- ▶ **Exception is an error that occurs during execution of a program**



# Exceptions

- ▶ **Exception is an error that occurs during execution of a program**
- ▶ **Python generates an exception that can be handled, which avoids the program to crash**



# Exceptions



# Exceptions

▶ **Example:** 1/0



# Exceptions

- ▶ **Example:  $1/0$**
- ▶ **It will give ZeroDivisionError exception**



# Exception Handling



# Exception Handling

```
try:  
    statement1  
    statement2  
except exception name:  
    exception handling statement(s)  
else:  
    statement(s) when no exception  
after statement(s)
```



# Summary

- ▶ Errors and exceptions
- ▶ Handling exception using `try` and `except`
- ▶ Using `%debug` for debugging in IPython



# Evaluation

## 1. How do you start the debugger on IPython?

- ▶ `debug`
- ▶ `%debug`
- ▶ `%debugger`
- ▶ `start debugger`



# Solution

## 1. `%debug`





# 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/>

