

Annotations

Spoken Tutorial Project
<http://spoken-tutorial.org>

National Mission on Education through ICT
<http://sakshat.ac.in>

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Learning Objectives

In this tutorial, we are going to learn how to:

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- ▶ **specify an annotation**

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In this tutorial, we are going to learn how to:

- ▶ **specify an annotation**
- ▶ **define a record**



System Requirements

- ▶ **OpenModelica 1.9.2**

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- ▶ **Any OS: Linux, Windows, Mac OS X or FOSSEE OS on ARM**

Prerequisites

- ▶ **Knowledge of class definition in Modelica**

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- ▶ Prerequisite tutorials are mentioned on our website

www.spoken-tutorial.org

Annotations

Annotations can be used to:

- ▶ **change simulation settings**

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- ▶ **add supporting documentation**

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Annotations can be used to:

- ▶ **change simulation settings**
- ▶ **add supporting documentation**
- ▶ **add icon and diagram views to a class**

experiment

It is a model annotation that may be used to vary:



experiment

It is a model annotation that may be used to vary:

- ▶ **StartTime**

experiment

It is a model annotation that may be used to vary:

- ▶ **StartTime**
- ▶ **StopTime**

experiment

It is a model annotation that may be used to vary:

- ▶ **StartTime**
- ▶ **StopTime**
- ▶ **Tolerance**

experiment

It is a model annotation that may be used to vary:

- ▶ **StartTime**
- ▶ **StopTime**
- ▶ **Tolerance**
- ▶ **Interval**

Example of **experiment** annotation

**annotation(experiment(StartTime =
0,StopTime = 10,Tolerance = 0.01,Interval
= 10))**

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- ▶ **Eg: Bank accounts have person records with name, age etc as fields**
- ▶ **Records can only contain variables**
- ▶ **Records may not contain equations**

Example of record

```
record Person  
  Real age;  
  String name;  
end Person
```

Records in annotations

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- ▶ It is easier to understand annotation elements as records
- ▶ Eg: **experiment** - record with **StartTime**, **StopTime**, **Interval** and **Tolerance** as fields
- ▶ Graphical elements can be interpreted similarly

Assignment

- ▶ **Vary the stop time for simulation of 'bouncingBallWithAnnotations' class from 10 to 20 units. Use experiment annotation**



Assignment

- ▶ **Vary the stop time for simulation of 'bouncingBallWithAnnotations' class from 10 to 20 units. Use experiment annotation**
- ▶ **Simulate the class after this change. Plot 'h' vs'Time' and notice the change in simulation stop time.**



About the Spoken Tutorial Project

- ▶ Watch the video available at http://spoken-tutorial.org/What_is_a_Spoken_Tutorial
- ▶ It summarises the Spoken Tutorial project
- ▶ If you do not have good bandwidth, you can download and watch it

Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- ▶ Conducts workshops using spoken tutorials
- ▶ Gives certificates to those who pass an online test
- ▶ For more details, please write to contact@spoken-tutorial.org

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/>



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://OM.fossee.in/Textbook-Companion-Project>



Lab Migration Project

- ▶ **The FOSSEE team helps migrate commercial simulator labs to OpenModelica**
- ▶ **We give honorarium and certificates to those who do this**

For more details, please visit this site:

<http://OM.fossee.in/lab-migration-project>



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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>

Thanks!

<http://openmodelica.org>