

Developing an equation-based model

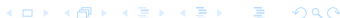
Spoken Tutorial Project
<http://spoken-tutorial.org>

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

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- ▶ **use ‘Simulation Setup’ toolbox**

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 equation-based modeling of physical systems**

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Initial Conditions:

$$h(t = 0) = 30 \text{ m}, v(t = 0) = 0$$



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- ▶ no data flow direction for equations
- ▶ Eg: **der(h) = v** or **v = der(h)**
- ▶ **initial equation** section used to enter initial conditions

Assignment

Write a model to simulate the differential equation

$$dx/dt = -a * x$$

where $a = 1$, $x \in \mathbb{R}$ and $x(t = 0) = 5$

About the Spoken Tutorial Project

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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

Acknowledgements

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- ▶ More information on this Mission is available at <http://spoken-tutorial.org/NMEICT-Intro>

Thanks!

<http://openmodelica.org>