**CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENTS**



**Assignment 3.1**

Course Title: System Integration with Dymola

Course Code: CUTM1022 (0-0-2)

**Submitted to:**

***Dr. Sudhansu Kumar Samal***

*Faculty of*

*School of Engineering & Technology, Bhubaneswar*

**Submitted by:**

Name: Kiran Kumar Malik

Registration no: 200301120128

Branch: B-Tech in Computer Science and Engineering’s

Semester: 4th Sem

Section: C

**Experiment No.: 3.1**

Current load to the resistor with Inductor

**Requirements:**

OpenModelica software

**Procedure:**

Step 1: Open Openmodelica connection editor

Graphical user interface, application

Description automatically generated

Step 2: Click on New Modelica class, give a new Modelica class name, then click on ok

Graphical user interface

Description automatically generated

Step 3: Then this type of page will appear

A picture containing white, tub, bath

Description automatically generated

Step 4: Go to Modelica packages, then go to electrical, then analog, then basic, then drag resistor and ground to the modeling field , then choose the constant voltage from source packages.

  I connected the connection between the positive terminal of constantVoltage and resistor. then the connection between negative terminal of resistor and positive terminal of inductor, then connection between negative terminal of the inductor and ground, connection between negative terminal of constantvoltaga and ground.

Add some information of the modeling

Diagram, schematic

Description automatically generatedGraphical user interface, text, application, email

Description automatically generated

Step 5: After the completion of modeling then save the Modelica file into your pc as .mo extensions, after that go for simulation, when clicking on simulation then compilation occurs, graphical language changes into modelica language.

model Assignment\_3of1

Modelica.Electrical.Analog.Basic.Resistor resistor(R = 10) annotation(

Placement(visible = true, transformation(origin = {1, 63}, extent = {{-15, -15}, {15, 15}}, rotation = 0)));

Modelica.Electrical.Analog.Basic.Inductor inductor(L = 2) annotation(

Placement(visible = true, transformation(origin = {54, 64}, extent = {{-10, -10}, {10, 10}}, rotation = 0)));

Modelica.Electrical.Analog.Basic.Ground ground annotation(

Placement(visible = true, transformation(origin = {0, -50}, extent = {{-10, -10}, {10, 10}}, rotation = 0)));

Modelica.Electrical.Analog.Sources.ConstantVoltage constantVoltage(V = 100) annotation(

Placement(visible = true, transformation(origin = {-62, 0}, extent = {{-10, -10}, {10, 10}}, rotation = -90)));

equation

connect(constantVoltage.p, resistor.p) annotation(

Line(points = {{-62, 10}, {-64, 10}, {-64, 64}, {-14, 64}}, color = {0, 0, 255}));

connect(constantVoltage.n, ground.p) annotation(

Line(points = {{-62, -10}, {-62, -40}, {0, -40}}, color = {0, 0, 255}));

connect(resistor.n, inductor.p) annotation(

Line(points = {{16, 64}, {44, 64}}, color = {0, 0, 255}));

connect(inductor.n, ground.p) annotation(

Line(points = {{64, 64}, {80, 64}, {80, -40}, {0, -40}}, color = {0, 0, 255}));

annotation(

uses(Modelica(version = "4.0.0")),

Documentation(info = "<html><head></head><body>In this RL circuit<div>R=10ohm</div><div>V=100V</div><div>L=2H</div><div>&nbsp;In this RL circuit load to the resistor with inductor, Firstly I connected the connection between the positive terminal of constantVoltage and resistor. then the connection between negative terminal of resistor and positive terminal of inductor, then connection between negative terminal of the inductor and ground, connection between negative terminal of constantvoltaga and ground. Finally check the model, then simulate. after that go for plotting.</div></body></html>"));

end Assignment\_3of1;

Graphical user interface, text, application, Word

Description automatically generated

Step 6:after the compilation it will show you a plotting area where you have to plot, as per your given data you have to simulate.

Chart, line chart

Description automatically generated