```
/*
 * one.java
 */

import com.comsol.model.*;
import com.comsol.model.util.*;

/** Model exported on Dec 3 2019, 14:42 by COMSOL 5.5.0.292. */
public class one {

  public static Model run() {
    Model model = ModelUtil.create("Model");

    model.modelPath("D:\\");

    model.component().create("comp1", true);

    model.component("comp1").geom().create("geom1", 3);

    model.component("comp1").mesh().create("mesh1");

    model.component("comp1").physics().create("solid", "SolidMechanics",
"geom1");

    model.study().create("std1");
    model.study("std1").create("stat", "Stationary");
    model.study("std1").feature("stat").activate("solid", true);

    model.param().label("A");
    model.param().set("a", "10");

    model.component("comp1").geom("geom1").run();

    model.component("comp1").material().create("mat1", "Common");

model.component("comp1").material("mat1").propertyGroup().create("Enu",
"Young's modulus and Poisson's ratio");

model.component("comp1").material("mat1").propertyGroup().create("linzRes
", "Linearized resistivity");
    model.component("comp1").material("mat1").label("Copper");
    model.component("comp1").material("mat1").set("family", "copper");
    model.component("comp1").material("mat1").propertyGroup("def")
         .set("relpermeability", new String[]{"1", "0", "0", "0", "1",
"0", "0", "0", "1"});

model.component("comp1").material("mat1").propertyGroup("def").descr("rel
permeability_symmetry", "");
    model.component("comp1").material("mat1").propertyGroup("def")
         .set("electricconductivity", new String[]{"5.998e7[S/m]", "0",
"0", "0", "5.998e7[S/m]", "0", "0", "0", "5.998e7[S/m]"});

model.component("comp1").material("mat1").propertyGroup("def").descr("ele
ctricconductivity_symmetry", "");
```

```
    model.component("comp1").material("mat1").propertyGroup("def")
         .set("thermalexpansioncoefficient", new String[]{"17e-6[1/K]",
"0", "0", "0", "17e-6[1/K]", "0", "0", "0", "17e-6[1/K]"});

model.component("comp1").material("mat1").propertyGroup("def").descr("the
rmalexpansioncoefficient_symmetry", "");

model.component("comp1").material("mat1").propertyGroup("def").set("heatc
apacity", "385[J/(kg*K)]");

model.component("comp1").material("mat1").propertyGroup("def").descr("hea
tcapacity_symmetry", "");
    model.component("comp1").material("mat1").propertyGroup("def")
         .set("relpermittivity", new String[]{"1", "0", "0", "0", "1",
"0", "0", "0", "1"});

model.component("comp1").material("mat1").propertyGroup("def").descr("rel
permittivity_symmetry", "");

model.component("comp1").material("mat1").propertyGroup("def").set("densi
ty", "8960[kg/m^3]");

model.component("comp1").material("mat1").propertyGroup("def").descr("den
sity_symmetry", "");
    model.component("comp1").material("mat1").propertyGroup("def")
         .set("thermalconductivity", new String[]{"400[W/(m*K)]", "0",
"0", "0", "400[W/(m*K)]", "0", "0", "0", "400[W/(m*K)]"});

model.component("comp1").material("mat1").propertyGroup("def").descr("the
rmalconductivity_symmetry", "");

model.component("comp1").material("mat1").propertyGroup("Enu").set("young
smodulus", "110e9[Pa]");

model.component("comp1").material("mat1").propertyGroup("Enu").descr("you
ngsmodulus_symmetry", "");

model.component("comp1").material("mat1").propertyGroup("Enu").set("poiss
onsratio", "0.35");

model.component("comp1").material("mat1").propertyGroup("Enu").descr("poi
ssonsratio_symmetry", "");

model.component("comp1").material("mat1").propertyGroup("linzRes").set("r
ho0", "");

model.component("comp1").material("mat1").propertyGroup("linzRes").set("a
lpha", "");

model.component("comp1").material("mat1").propertyGroup("linzRes").set("T
ref", "");

model.component("comp1").material("mat1").propertyGroup("linzRes").set("r
ho0", "");
```

```
model.component("comp1").material("mat1").propertyGroup("linzRes").set("a
lpha", "");

model.component("comp1").material("mat1").propertyGroup("linzRes").set("T
ref", "");

model.component("comp1").material("mat1").propertyGroup("linzRes").set("r
ho0", "1.72e-8[ohm*m]");

model.component("comp1").material("mat1").propertyGroup("linzRes").set("a
lpha", "0.0039[1/K]");

model.component("comp1").material("mat1").propertyGroup("linzRes").set("T
ref", "298[K]");

model.component("comp1").material("mat1").propertyGroup("linzRes").descr(
"rho0_symmetry", "");

model.component("comp1").material("mat1").propertyGroup("linzRes").descr(
"alpha_symmetry", "");

model.component("comp1").material("mat1").propertyGroup("linzRes").descr(
"Tref_symmetry", "");

model.component("comp1").material("mat1").propertyGroup("linzRes").addInp
ut("temperature");
    model.component("comp1").material("mat1").set("groups", new
String[][]{});
    model.component("comp1").material("mat1").set("family", "copper");

    model.component("comp1").geom("geom1").create("blk1", "Block");

    model.param().set("b", "2");
    model.param().set("c", "10");

    model.component("comp1").geom("geom1").feature("blk1").set("size",
new String[]{"a", "b", "c"});
    model.component("comp1").geom("geom1").runPre("fin");

model.component("comp1").geom("geom1").feature("blk1").set("axistype",
"z");
    model.component("comp1").geom("geom1").run();

    model.component("comp1").physics("solid").create("fix1", "Fixed", 2);

model.component("comp1").physics("solid").feature("fix1").selection().set
(2);
    model.component("comp1").physics("solid").create("bndl1",
"BoundaryLoad", 2);

model.component("comp1").physics("solid").feature("bndl1").selection().se
t(2, 5);
```

```
model.component("comp1").physics("solid").feature("bndl1").set("FperArea"
, new int[]{0, 0, -500});

    model.component("comp1").mesh("mesh1").run();
    model.component("comp1").mesh("mesh1").autoMeshSize(1);
    model.component("comp1").mesh("mesh1").run();
    model.component("comp1").mesh("mesh1").autoMeshSize(9);
    model.component("comp1").mesh("mesh1").run();
    model.component("comp1").mesh("mesh1").run();
    model.component("comp1").mesh("mesh1").create("size1", "Size");
    model.component("comp1").mesh("mesh1").feature().remove("size1");
    model.component("comp1").mesh("mesh1").feature("size").set("hmax",
0.4);
    model.component("comp1").mesh("mesh1").feature("size").set("hmin",
0.2);
    model.component("comp1").mesh("mesh1").feature("size").set("hgrad",
1.3);
    model.component("comp1").mesh("mesh1").feature("size").set("hcurve",
0.2);
    model.component("comp1").mesh("mesh1").feature("size").set("hnarrow",
1);
    model.component("comp1").mesh("mesh1").run();
    model.component("comp1").mesh("mesh1").feature("size").set("hmax",
5);
    model.component("comp1").mesh("mesh1").run();
    model.component("comp1").mesh("mesh1").feature("size").set("custom",
true);
    model.component("comp1").mesh("mesh1").feature("size").set("hmin",
1);
    model.component("comp1").mesh("mesh1").run("size");

    model.component("comp1").geom("geom1").run("fin");

    model.component("comp1").mesh("mesh1").feature("size").set("custom",
false);
    model.component("comp1").mesh("mesh1").run();
    model.component("comp1").mesh("mesh1").feature("size").set("hauto",
2);
    model.component("comp1").mesh("mesh1").run();
    model.component("comp1").mesh("mesh1").feature("size").set("custom",
false);
    model.component("comp1").mesh("mesh1").feature("size").set("hauto",
1);
    model.component("comp1").mesh("mesh1").run();
    model.component("comp1").mesh("mesh1").run("size");
    model.component("comp1").mesh("mesh1").feature("size").set("hmax",
0.4);
    model.component("comp1").mesh("mesh1").feature("size").set("hmin",
0.2);
    model.component("comp1").mesh("mesh1").run();
    model.component("comp1").mesh("mesh1").create("ftet1", "FreeTet");
    model.component("comp1").mesh("mesh1").run();
```

```
    model.sol().create("sol1");
    model.sol("sol1").study("std1");

    model.study("std1").feature("stat").set("notlistsolnum", 1);
    model.study("std1").feature("stat").set("notsolnum", "1");
    model.study("std1").feature("stat").set("listsolnum", 1);
    model.study("std1").feature("stat").set("solnum", "1");

    model.sol("sol1").create("st1", "StudyStep");
    model.sol("sol1").feature("st1").set("study", "std1");
    model.sol("sol1").feature("st1").set("studystep", "stat");
    model.sol("sol1").create("v1", "Variables");
    model.sol("sol1").feature("v1").set("control", "stat");
    model.sol("sol1").create("s1", "Stationary");
    model.sol("sol1").feature("s1").feature("aDef").set("cachepattern",
true);
    model.sol("sol1").feature("s1").create("fc1", "FullyCoupled");
    model.sol("sol1").feature("s1").feature("fc1").set("termonres",
"auto");
    model.sol("sol1").feature("s1").feature("fc1").set("reserrfact",
1000);
    model.sol("sol1").feature("s1").create("d1", "Direct");
    model.sol("sol1").feature("s1").feature("d1").set("linsolver",
"mumps");
    model.sol("sol1").feature("s1").feature("d1").label("Suggested Direct
Solver (solid)");
    model.sol("sol1").feature("s1").create("i1", "Iterative");
    model.sol("sol1").feature("s1").feature("i1").set("linsolver",
"gmres");
    model.sol("sol1").feature("s1").feature("i1").set("rhob", 400);
    model.sol("sol1").feature("s1").feature("i1").set("nlinnormuse",
true);
    model.sol("sol1").feature("s1").feature("i1").label("Suggested
Iterative Solver (solid)");
    model.sol("sol1").feature("s1").feature("i1").create("mg1",
"Multigrid");

model.sol("sol1").feature("s1").feature("i1").feature("mg1").set("prefun"
, "gmg");

model.sol("sol1").feature("s1").feature("i1").feature("mg1").feature("pr"
).create("so1", "SOR");

model.sol("sol1").feature("s1").feature("i1").feature("mg1").feature("pr"
).feature("so1").set("relax", 0.8);

model.sol("sol1").feature("s1").feature("i1").feature("mg1").feature("po"
).create("so1", "SOR");

model.sol("sol1").feature("s1").feature("i1").feature("mg1").feature("po"
).feature("so1").set("relax", 0.8);
    model.sol("sol1").feature("s1").feature("fc1").set("linsolver",
"d1");
```

```
    model.sol("sol1").feature("s1").feature("fc1").set("termonres",
"auto");
    model.sol("sol1").feature("s1").feature("fc1").set("reserrfact",
1000);
    model.sol("sol1").feature("s1").feature().remove("fcDef");
    model.sol("sol1").attach("std1");

    model.result().create("pg1", "PlotGroup3D");
    model.result("pg1").set("data", "dset1");
    model.result("pg1").create("surf1", "Surface");
    model.result("pg1").feature("surf1").set("expr", new
String[]{"solid.mises"});
    model.result("pg1").label("Stress (solid)");
    model.result("pg1").feature("surf1").set("colortable",
"RainbowLight");
    model.result("pg1").feature("surf1").set("resolution", "normal");
    model.result("pg1").feature("surf1").create("def", "Deform");
    model.result("pg1").feature("surf1").feature("def").set("expr", new
String[]{"u", "v", "w"});
    model.result("pg1").feature("surf1").feature("def").set("descr",
"Displacement field");

    model.nodeGroup().create("dset1solidlgrp", "Results");
    model.nodeGroup("dset1solidlgrp").label("Applied Loads (solid)");
    model.nodeGroup("dset1solidlgrp").set("type", "plotgroup");
    model.nodeGroup("dset1solidlgrp").placeAfter("plotgroup", "pg1");

    model.result().create("pg2", "PlotGroup3D");
    model.result("pg2").set("data", "dset1");
    model.result("pg2").label("Boundary Loads (solid)");

    model.nodeGroup("dset1solidlgrp").add("plotgroup", "pg2");

    model.result("pg2").set("showlegends", true);
    model.result("pg2").set("titletype", "custom");
    model.result("pg2").set("typeintitle", false);
    model.result("pg2").set("descriptionintitle", false);
    model.result("pg2").set("unitintitle", false);
    model.result("pg2").set("frametype", "spatial");
    model.result("pg2").set("showlegendsunit", true);
    model.result("pg2").create("surf1", "Surface");
    model.result("pg2").feature("surf1").set("expr", new String[]{"1"});
    model.result("pg2").feature("surf1").label("Gray Surfaces");
    model.result("pg2").feature("surf1").set("coloring", "uniform");
    model.result("pg2").feature("surf1").set("color", "gray");
    model.result("pg2").feature("surf1").active(false);
    model.result("pg2").feature("surf1").create("def", "Deform");
    model.result("pg2").feature("surf1").feature("def").set("expr", new
String[]{"u", "v", "w"});
    model.result("pg2").feature("surf1").feature("def").set("descr",
"Displacement field");

model.result("pg2").feature("surf1").feature("def").set("scaleactive",
true);
```

```
    model.result("pg2").feature("surf1").feature("def").set("scale", 0);
    model.result("pg2").create("arws1", "ArrowSurface");
    model.result("pg2").feature("arws1")
         .set("expr", new String[]{"solid.bndl1.F_Ax",
"solid.bndl1.F_Ay", "solid.bndl1.F_Az"});
    model.result("pg2").feature("arws1").set("placement", "gausspoints");
    model.result("pg2").feature("arws1").set("arrowbase", "tail");
    model.result("pg2").feature("arws1").label("Boundary Load 1");
    model.result("pg2").feature().move("surf1", 1);
    model.result("pg2").feature("arws1").set("inheritplot", "none");
    model.result("pg2").feature("arws1").create("col", "Color");
    model.result("pg2").feature("arws1").feature("col").set("expr",
"comp1.solid.bndl1.F_A_Mag");
    model.result("pg2").feature("arws1").feature("col").set("colortable",
"Spectrum");
    model.result("pg2").feature("arws1").feature("col").set("coloring",
"gradient");
    model.result("pg2").feature("arws1").feature("col").set("topcolor",
"red");
    model.result("pg2").feature("arws1").set("color", "red");
    model.result("pg2").feature("arws1").create("def", "Deform");
    model.result("pg2").feature("arws1").feature("def").set("expr", new
String[]{"u", "v", "w"});
    model.result("pg2").feature("arws1").feature("def").set("descr",
"Displacement field");

model.result("pg2").feature("arws1").feature("def").set("scaleactive",
true);
    model.result("pg2").feature("arws1").feature("def").set("scale", 0);

    model.sol("sol1").runAll();

    model.result("pg1").run();
    model.result("pg1").run();
    model.result().export().create("anim1", "Animation");
    model.result().export("anim1").set("target", "player");
    model.result().export("anim1").set("fontsize", "9");
    model.result().export("anim1").set("customcolor", new double[]{1, 1,
1});
    model.result().export("anim1").set("background", "color");
    model.result().export("anim1").set("gltfincludelines", "on");
    model.result().export("anim1").set("title1d", "on");
    model.result().export("anim1").set("legend1d", "on");
    model.result().export("anim1").set("logo1d", "on");
    model.result().export("anim1").set("options1d", "on");
    model.result().export("anim1").set("title2d", "on");
    model.result().export("anim1").set("legend2d", "on");
    model.result().export("anim1").set("logo2d", "on");
    model.result().export("anim1").set("options2d", "off");
    model.result().export("anim1").set("title3d", "on");
    model.result().export("anim1").set("legend3d", "on");
    model.result().export("anim1").set("logo3d", "on");
    model.result().export("anim1").set("options3d", "off");
    model.result().export("anim1").set("axisorientation", "on");
```

```
    model.result().export("anim1").set("grid", "on");
    model.result().export("anim1").set("axes1d", "on");
    model.result().export("anim1").set("axes2d", "on");
    model.result().export("anim1").set("showgrid", "on");
    model.result().export("anim1").set("sweeptype", "dde");
    model.result().export("anim1").set("showframe", 25);
    model.result().export("anim1").run();
    model.result().export("anim1").set("repeat", true);
    model.result().export("anim1").set("stopped", true);
    model.result().export("anim1").run();
    model.result().report().create("rpt1", "Report");
    model.result().report("rpt1").set("templatesource", "complete");
    model.result().report("rpt1").feature().clear();
    model.result().report("rpt1").create("tp1", "TitlePage");
    model.result().report("rpt1").create("toc1", "TableOfContents");
    model.result().report("rpt1").create("sec1", "Section");
    model.result().report("rpt1").feature("sec1").set("source",
"custom");
    model.result().report("rpt1").feature("sec1").set("heading", "Global
Definitions");
    model.result().report("rpt1").feature("sec1").create("root1",
"Model");
    model.result().report("rpt1").feature("sec1").create("sec1",
"Section");

model.result().report("rpt1").feature("sec1").feature("sec1").set("source
", "custom");

model.result().report("rpt1").feature("sec1").feature("sec1").set("headin
g", "Parameters");

model.result().report("rpt1").feature("sec1").feature("sec1").create("par
am1", "Parameter");

model.result().report("rpt1").feature("sec1").feature("sec1").feature("pa
ram1").set("noderef", "default");
    model.result().report("rpt1").create("sec2", "Section");
    model.result().report("rpt1").feature("sec2").set("source",
"custom");
    model.result().report("rpt1").feature("sec2").set("heading",
"Component 1");
    model.result().report("rpt1").feature("sec2").create("comp1",
"ModelNode");

model.result().report("rpt1").feature("sec2").feature("comp1").set("noder
ef", "comp1");

model.result().report("rpt1").feature("sec2").feature("comp1").set("inclu
deauthor", true);

model.result().report("rpt1").feature("sec2").feature("comp1").set("inclu
dedatecreated", true);
```

```
model.result().report("rpt1").feature("sec2").feature("comp1").set("inclu
deversion", true);
    model.result().report("rpt1").feature("sec2").create("sec1",
"Section");

model.result().report("rpt1").feature("sec2").feature("sec1").set("source
", "custom");

model.result().report("rpt1").feature("sec2").feature("sec1").set("headin
g", "Definitions");

model.result().report("rpt1").feature("sec2").feature("sec1").create("sec
1", "Section");

model.result().report("rpt1").feature("sec2").feature("sec1").feature("se
c1").set("source", "custom");

model.result().report("rpt1").feature("sec2").feature("sec1").feature("se
c1")
         .set("heading", "Coordinate Systems");

model.result().report("rpt1").feature("sec2").feature("sec1").feature("se
c1").create("sec1", "Section");

model.result().report("rpt1").feature("sec2").feature("sec1").feature("se
c1").feature("sec1")
         .set("source", "firstchild");

model.result().report("rpt1").feature("sec2").feature("sec1").feature("se
c1").feature("sec1")
         .set("heading", "Boundary System 1");

model.result().report("rpt1").feature("sec2").feature("sec1").feature("se
c1").feature("sec1")
         .create("csys1", "CoordinateSystem");

model.result().report("rpt1").feature("sec2").feature("sec1").feature("se
c1").feature("sec1").feature("csys1")
         .set("noderef", "sys1");
    model.result().report("rpt1").feature("sec2").create("sec2",
"Section");

model.result().report("rpt1").feature("sec2").feature("sec2").set("source
", "firstchild");

model.result().report("rpt1").feature("sec2").feature("sec2").set("headin
g", "Geometry 1");

model.result().report("rpt1").feature("sec2").feature("sec2").create("geo
m1", "Geometry");

model.result().report("rpt1").feature("sec2").feature("sec2").feature("ge
om1").set("noderef", "geom1");
```

```
    model.result().report("rpt1").feature("sec2").create("sec3",
"Section");

model.result().report("rpt1").feature("sec2").feature("sec3").set("source
", "custom");

model.result().report("rpt1").feature("sec2").feature("sec3").set("headin
g", "Materials");

model.result().report("rpt1").feature("sec2").feature("sec3").create("sec
1", "Section");

model.result().report("rpt1").feature("sec2").feature("sec3").feature("se
c1").set("source", "firstchild");

model.result().report("rpt1").feature("sec2").feature("sec3").feature("se
c1").set("heading", "Copper");

model.result().report("rpt1").feature("sec2").feature("sec3").feature("se
c1").create("mat1", "Material");

model.result().report("rpt1").feature("sec2").feature("sec3").feature("se
c1").feature("mat1")
         .set("noderef", "mat1");
    model.result().report("rpt1").feature("sec2").create("sec4",
"Section");

model.result().report("rpt1").feature("sec2").feature("sec4").set("source
", "firstchild");

model.result().report("rpt1").feature("sec2").feature("sec4").set("headin
g", "Solid Mechanics");

model.result().report("rpt1").feature("sec2").feature("sec4").create("phy
s1", "Physics");

model.result().report("rpt1").feature("sec2").feature("sec4").feature("ph
ys1").set("noderef", "solid");
    model.result().report("rpt1").feature("sec2").create("sec5",
"Section");

model.result().report("rpt1").feature("sec2").feature("sec5").set("source
", "firstchild");

model.result().report("rpt1").feature("sec2").feature("sec5").set("headin
g", "Mesh 1");

model.result().report("rpt1").feature("sec2").feature("sec5").create("mes
h1", "Mesh");

model.result().report("rpt1").feature("sec2").feature("sec5").feature("me
sh1").set("noderef", "mesh1");
    model.result().report("rpt1").create("sec3", "Section");
```

```
    model.result().report("rpt1").feature("sec3").set("source",
"custom");
    model.result().report("rpt1").feature("sec3").set("heading", "Study
1");
    model.result().report("rpt1").feature("sec3").create("std1",
"Study");

model.result().report("rpt1").feature("sec3").feature("std1").set("nodere
f", "std1");
    model.result().report("rpt1").feature("sec3").create("sec1",
"Section");

model.result().report("rpt1").feature("sec3").feature("sec1").set("source
", "custom");

model.result().report("rpt1").feature("sec3").feature("sec1").set("headin
g", "Solver Configurations");

model.result().report("rpt1").feature("sec3").feature("sec1").create("sec
1", "Section");

model.result().report("rpt1").feature("sec3").feature("sec1").feature("se
c1").set("source", "firstchild");

model.result().report("rpt1").feature("sec3").feature("sec1").feature("se
c1").set("heading", "Solution 1");

model.result().report("rpt1").feature("sec3").feature("sec1").feature("se
c1").create("sol1", "Solver");

model.result().report("rpt1").feature("sec3").feature("sec1").feature("se
c1").feature("sol1")
          .set("noderef", "sol1");
    model.result().report("rpt1").create("sec4", "Section");
    model.result().report("rpt1").feature("sec4").set("source",
"custom");
    model.result().report("rpt1").feature("sec4").set("heading",
"Results");
    model.result().report("rpt1").feature("sec4").create("sec1",
"Section");

model.result().report("rpt1").feature("sec4").feature("sec1").set("source
", "custom");

model.result().report("rpt1").feature("sec4").feature("sec1").set("headin
g", "Datasets");

model.result().report("rpt1").feature("sec4").feature("sec1").create("sec
1", "Section");

model.result().report("rpt1").feature("sec4").feature("sec1").feature("se
c1").set("source", "firstchild");
```

```
model.result().report("rpt1").feature("sec4").feature("sec1").feature("se
c1")
         .set("heading", "Study 1/Solution 1");

model.result().report("rpt1").feature("sec4").feature("sec1").feature("se
c1").create("dset1", "DataSet");

model.result().report("rpt1").feature("sec4").feature("sec1").feature("se
c1").feature("dset1")
         .set("noderef", "dset1");
    model.result().report("rpt1").feature("sec4").create("sec2",
"Section");

model.result().report("rpt1").feature("sec4").feature("sec2").set("source
", "custom");

model.result().report("rpt1").feature("sec4").feature("sec2").set("headin
g", "Plot Groups");

model.result().report("rpt1").feature("sec4").feature("sec2").create("sec
1", "Section");

model.result().report("rpt1").feature("sec4").feature("sec2").feature("se
c1").set("source", "firstchild");

model.result().report("rpt1").feature("sec4").feature("sec2").feature("se
c1").set("heading", "Stress (solid)");

model.result().report("rpt1").feature("sec4").feature("sec2").feature("se
c1").create("pg1", "PlotGroup");

model.result().report("rpt1").feature("sec4").feature("sec2").feature("se
c1").feature("pg1")
         .set("noderef", "pg1");
    model.result().report("rpt1").feature("sec4").create("sec3",
"Section");

model.result().report("rpt1").feature("sec4").feature("sec3").set("source
", "custom");

model.result().report("rpt1").feature("sec4").feature("sec3").set("headin
g", "Applied Loads (solid)");

model.result().report("rpt1").feature("sec4").feature("sec3").create("sec
1", "Section");

model.result().report("rpt1").feature("sec4").feature("sec3").feature("se
c1").set("source", "firstchild");

model.result().report("rpt1").feature("sec4").feature("sec3").feature("se
c1")
         .set("heading", "Boundary Loads (solid)");
```

```
model.result().report("rpt1").feature("sec4").feature("sec3").feature("se
c1").create("pg1", "PlotGroup");

model.result().report("rpt1").feature("sec4").feature("sec3").feature("se
c1").feature("pg1")
         .set("noderef", "pg2");
    model.result().report("rpt1").set("imagegeneration", "suppress");
    model.result().report("rpt1").set("format", "docx");
    model.result().report("rpt1").set("filename", "D:\\Report.docx");
    model.result().report("rpt1").set("imagegeneration", true);
    model.result().report("rpt1").feature().clear();
    model.result().report("rpt1").create("tp1", "TitlePage");
    model.result().report("rpt1").create("toc1", "TableOfContents");
    model.result().report("rpt1").create("sec1", "Section");
    model.result().report("rpt1").feature("sec1").set("source",
"custom");
    model.result().report("rpt1").feature("sec1").set("heading", "Global
Definitions");
    model.result().report("rpt1").feature("sec1").create("root1",
"Model");
    model.result().report("rpt1").feature("sec1").create("sec1",
"Section");

model.result().report("rpt1").feature("sec1").feature("sec1").set("source
", "custom");

model.result().report("rpt1").feature("sec1").feature("sec1").set("headin
g", "Parameters");

model.result().report("rpt1").feature("sec1").feature("sec1").create("par
am1", "Parameter");

model.result().report("rpt1").feature("sec1").feature("sec1").feature("pa
ram1").set("noderef", "default");
    model.result().report("rpt1").create("sec2", "Section");
    model.result().report("rpt1").feature("sec2").set("source",
"custom");
    model.result().report("rpt1").feature("sec2").set("heading",
"Component 1");
    model.result().report("rpt1").feature("sec2").create("comp1",
"ModelNode");

model.result().report("rpt1").feature("sec2").feature("comp1").set("noder
ef", "comp1");

model.result().report("rpt1").feature("sec2").feature("comp1").set("inclu
deauthor", true);

model.result().report("rpt1").feature("sec2").feature("comp1").set("inclu
dedatecreated", true);

model.result().report("rpt1").feature("sec2").feature("comp1").set("inclu
deversion", true);
```

```
    model.result().report("rpt1").feature("sec2").create("sec1",
"Section");

model.result().report("rpt1").feature("sec2").feature("sec1").set("source
", "custom");

model.result().report("rpt1").feature("sec2").feature("sec1").set("headin
g", "Definitions");

model.result().report("rpt1").feature("sec2").feature("sec1").create("sec
1", "Section");

model.result().report("rpt1").feature("sec2").feature("sec1").feature("se
c1").set("source", "custom");

model.result().report("rpt1").feature("sec2").feature("sec1").feature("se
c1")
         .set("heading", "Coordinate Systems");

model.result().report("rpt1").feature("sec2").feature("sec1").feature("se
c1").create("sec1", "Section");

model.result().report("rpt1").feature("sec2").feature("sec1").feature("se
c1").feature("sec1")
         .set("source", "firstchild");

model.result().report("rpt1").feature("sec2").feature("sec1").feature("se
c1").feature("sec1")
         .set("heading", "Boundary System 1");

model.result().report("rpt1").feature("sec2").feature("sec1").feature("se
c1").feature("sec1")
         .create("csys1", "CoordinateSystem");

model.result().report("rpt1").feature("sec2").feature("sec1").feature("se
c1").feature("sec1").feature("csys1")
         .set("noderef", "sys1");
    model.result().report("rpt1").feature("sec2").create("sec2",
"Section");

model.result().report("rpt1").feature("sec2").feature("sec2").set("source
", "firstchild");

model.result().report("rpt1").feature("sec2").feature("sec2").set("headin
g", "Geometry 1");

model.result().report("rpt1").feature("sec2").feature("sec2").create("geo
m1", "Geometry");

model.result().report("rpt1").feature("sec2").feature("sec2").feature("ge
om1").set("noderef", "geom1");
    model.result().report("rpt1").feature("sec2").create("sec3",
"Section");
```

```
model.result().report("rpt1").feature("sec2").feature("sec3").set("source
", "custom");

model.result().report("rpt1").feature("sec2").feature("sec3").set("headin
g", "Materials");

model.result().report("rpt1").feature("sec2").feature("sec3").create("sec
1", "Section");

model.result().report("rpt1").feature("sec2").feature("sec3").feature("se
c1").set("source", "firstchild");

model.result().report("rpt1").feature("sec2").feature("sec3").feature("se
c1").set("heading", "Copper");

model.result().report("rpt1").feature("sec2").feature("sec3").feature("se
c1").create("mat1", "Material");

model.result().report("rpt1").feature("sec2").feature("sec3").feature("se
c1").feature("mat1")
          .set("noderef", "mat1");
    model.result().report("rpt1").feature("sec2").create("sec4",
"Section");

model.result().report("rpt1").feature("sec2").feature("sec4").set("source
", "firstchild");

model.result().report("rpt1").feature("sec2").feature("sec4").set("headin
g", "Solid Mechanics");

model.result().report("rpt1").feature("sec2").feature("sec4").create("phy
s1", "Physics");

model.result().report("rpt1").feature("sec2").feature("sec4").feature("ph
ys1").set("noderef", "solid");
    model.result().report("rpt1").feature("sec2").create("sec5",
"Section");

model.result().report("rpt1").feature("sec2").feature("sec5").set("source
", "firstchild");

model.result().report("rpt1").feature("sec2").feature("sec5").set("headin
g", "Mesh 1");

model.result().report("rpt1").feature("sec2").feature("sec5").create("mes
h1", "Mesh");

model.result().report("rpt1").feature("sec2").feature("sec5").feature("me
sh1").set("noderef", "mesh1");
    model.result().report("rpt1").create("sec3", "Section");
    model.result().report("rpt1").feature("sec3").set("source",
"custom");
```

```
    model.result().report("rpt1").feature("sec3").set("heading", "Study
1");
    model.result().report("rpt1").feature("sec3").create("std1",
"Study");

model.result().report("rpt1").feature("sec3").feature("std1").set("nodere
f", "std1");
    model.result().report("rpt1").feature("sec3").create("sec1",
"Section");

model.result().report("rpt1").feature("sec3").feature("sec1").set("source
", "custom");

model.result().report("rpt1").feature("sec3").feature("sec1").set("headin
g", "Solver Configurations");

model.result().report("rpt1").feature("sec3").feature("sec1").create("sec
1", "Section");

model.result().report("rpt1").feature("sec3").feature("sec1").feature("se
c1").set("source", "firstchild");

model.result().report("rpt1").feature("sec3").feature("sec1").feature("se
c1").set("heading", "Solution 1");

model.result().report("rpt1").feature("sec3").feature("sec1").feature("se
c1").create("sol1", "Solver");

model.result().report("rpt1").feature("sec3").feature("sec1").feature("se
c1").feature("sol1")
         .set("noderef", "sol1");
    model.result().report("rpt1").create("sec4", "Section");
    model.result().report("rpt1").feature("sec4").set("source",
"custom");
    model.result().report("rpt1").feature("sec4").set("heading",
"Results");
    model.result().report("rpt1").feature("sec4").create("sec1",
"Section");

model.result().report("rpt1").feature("sec4").feature("sec1").set("source
", "custom");

model.result().report("rpt1").feature("sec4").feature("sec1").set("headin
g", "Datasets");

model.result().report("rpt1").feature("sec4").feature("sec1").create("sec
1", "Section");

    return model;
  }

  public static Model run2(Model model) {
```

```
model.result().report("rpt1").feature("sec4").feature("sec1").feature("se
c1").set("source", "firstchild");

model.result().report("rpt1").feature("sec4").feature("sec1").feature("se
c1")
         .set("heading", "Study 1/Solution 1");

model.result().report("rpt1").feature("sec4").feature("sec1").feature("se
c1").create("dset1", "DataSet");

model.result().report("rpt1").feature("sec4").feature("sec1").feature("se
c1").feature("dset1")
         .set("noderef", "dset1");
    model.result().report("rpt1").feature("sec4").create("sec2",
"Section");

model.result().report("rpt1").feature("sec4").feature("sec2").set("source
", "custom");

model.result().report("rpt1").feature("sec4").feature("sec2").set("headin
g", "Plot Groups");

model.result().report("rpt1").feature("sec4").feature("sec2").create("sec
1", "Section");

model.result().report("rpt1").feature("sec4").feature("sec2").feature("se
c1").set("source", "firstchild");

model.result().report("rpt1").feature("sec4").feature("sec2").feature("se
c1").set("heading", "Stress (solid)");

model.result().report("rpt1").feature("sec4").feature("sec2").feature("se
c1").create("pg1", "PlotGroup");

model.result().report("rpt1").feature("sec4").feature("sec2").feature("se
c1").feature("pg1")
         .set("noderef", "pg1");
    model.result().report("rpt1").feature("sec4").create("sec3",
"Section");

model.result().report("rpt1").feature("sec4").feature("sec3").set("source
", "custom");

model.result().report("rpt1").feature("sec4").feature("sec3").set("headin
g", "Applied Loads (solid)");

model.result().report("rpt1").feature("sec4").feature("sec3").create("sec
1", "Section");

model.result().report("rpt1").feature("sec4").feature("sec3").feature("se
c1").set("source", "firstchild");
```

```
model.result().report("rpt1").feature("sec4").feature("sec3").feature("se
c1")
          .set("heading", "Boundary Loads (solid)");

model.result().report("rpt1").feature("sec4").feature("sec3").feature("se
c1").create("pg1", "PlotGroup");

model.result().report("rpt1").feature("sec4").feature("sec3").feature("se
c1").feature("pg1")
          .set("noderef", "pg2");
    model.result().report("rpt1").feature("tp1").set("title", "Ashok");
    model.result().report("rpt1").feature("tp1").set("company",
"RAJALAKSHMI INSTITUTE OF TECHNOLOGY");
    model.result().report("rpt1").feature("tp1").set("version", "V1");
    model.result().report("rpt1").feature("tp1").run();
    model.result().report("rpt1").run();

    return model;
  }

  public static void main(String[] args) {
    Model model = run();
    run2(model);
  }

}
```