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model Example03c
  "Illustration of conditional statements and the importance of start value"

  parameter Real a=2;
  parameter Real b=-10;
  parameter Integer n = 6;
  Boolean bigThan5(start=false);
  Real x(start=-
10); // the start value of x obliges modelica to find the second solution of the 2d order equation.
  Real y; // Integer y would give an error

equation
  x^2 + a*x + b = 0;
  bigThan5= n>5;

algorithm
  y:= n*x;
  if y > x then
    y :=x;
  else
    y:=-x;
  end if;

end Example03c;

```

```

partial model PartialCap
  // partial model. Number of unknowns > nb of equations

  Modelica.Thermal.HeatTransfer.Interfaces.HeatPort_a heatPort;

  final parameter Modelica.SIunits.HeatCapacity CNom "nominal capacity value";
  Modelica.SIunits.HeatCapacity C "capacity. Notice: it is a variable!";
  Modelica.SIunits.Temperature T;

equation
  heatPort.T=T;
  C*der(T)=heatPort.Q_flow;
  // one equation is missing.
end PartialCap;

```

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model FixedCap    // extension of PartialCap

  extends Classes.PartialCap;

equation
  C = CNom;
end FixedCap;

```

```

model Array_TSet
parameter Integer n=4;
parameter Real[n] cvalues={ 600,1000,400,600}; // write the modifiers as parameters
parameter Real[n] Tstarts={ 500,350,600,200};

  with.mass[n] mass(c=cvalues, T(start=Tstarts)) annotation (Placement(transformation(extent={{ -
20,-10},{ 0,10}})));
  with.resistor[n-1] resistor
    annotation (Placement(transformation(extent={{ 2,-10},{ 22,10}})));
  PrescribedTemp TSet(T=step.y);
  Modelica.Blocks.Sources.Step step(height=50,startTime=3000,offset=300); // use modelica's library!
  Step input source

equation
for i in 1:n-1 loop
connect(mass[i].heatPort,resistor[i].heatPort_a) annotation (Line(
  points={{ -3.8,0},{ 4,0}},
  color={0,0,0},
  smooth=Smooth.None));
connect(mass[i+1].heatPort,resistor[i].heatPort_b) annotation (Line(
  points={{ -3.8,0},{ 0,0},{ 0,8},{ 26,8},{ 26,0},{ 20,0}},
  color={0,0,0},
  smooth=Smooth.None));
end for;

connect(TSet.heatPort,resistor[1].heatPort_b);

end Array_TSet;

```