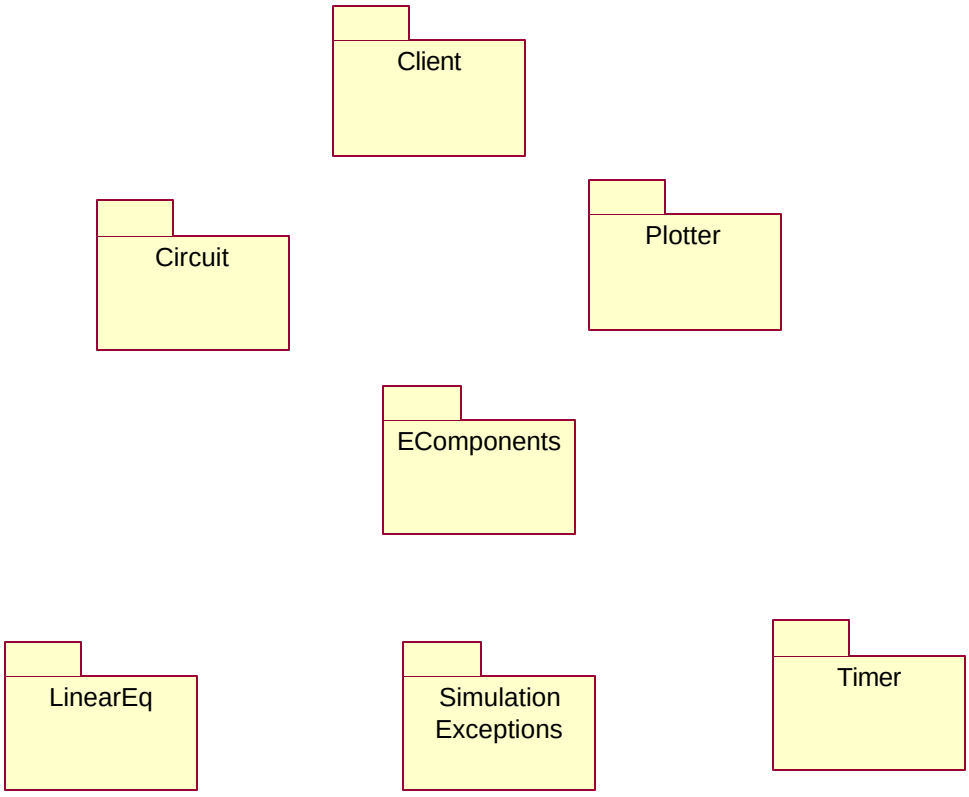
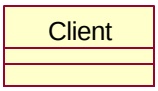
Project
EE/CIS 694T
Spring 2000

See the class diagram of the Client Package (next page) for details about this project

Packages



Package: Client



Client construsts the simulation system, and starts the simulation in its main() method.

All the JavaBean components, are constructes, and wired together in the main method as follows:

A single clock. Each tick is one second. LifeTime of the clock should be 200 seconds.

A series circuit consisting of two voltage sources, and four resistances, R1 = 10 ohm, R2 = 30 ohm, R3 = 5 ohm, and R4 = 20 ohm..

The voltage source and the series circuit listen to IntervalInformer events with timeInterval set to one.

The priority of the voltage source is 0 (highest priority)

The priority of the series circuit is 1 (lower than the souce priority)

One of the voltage sources, V1, is a triangular wave source with amplitude 5 volt, and a period of 50 seconds (phase = 0).

The other voltge source, V2, is a sin wave source, with an amplitude of 10 volts and a tim e period of 100 seconds (phase = 0).

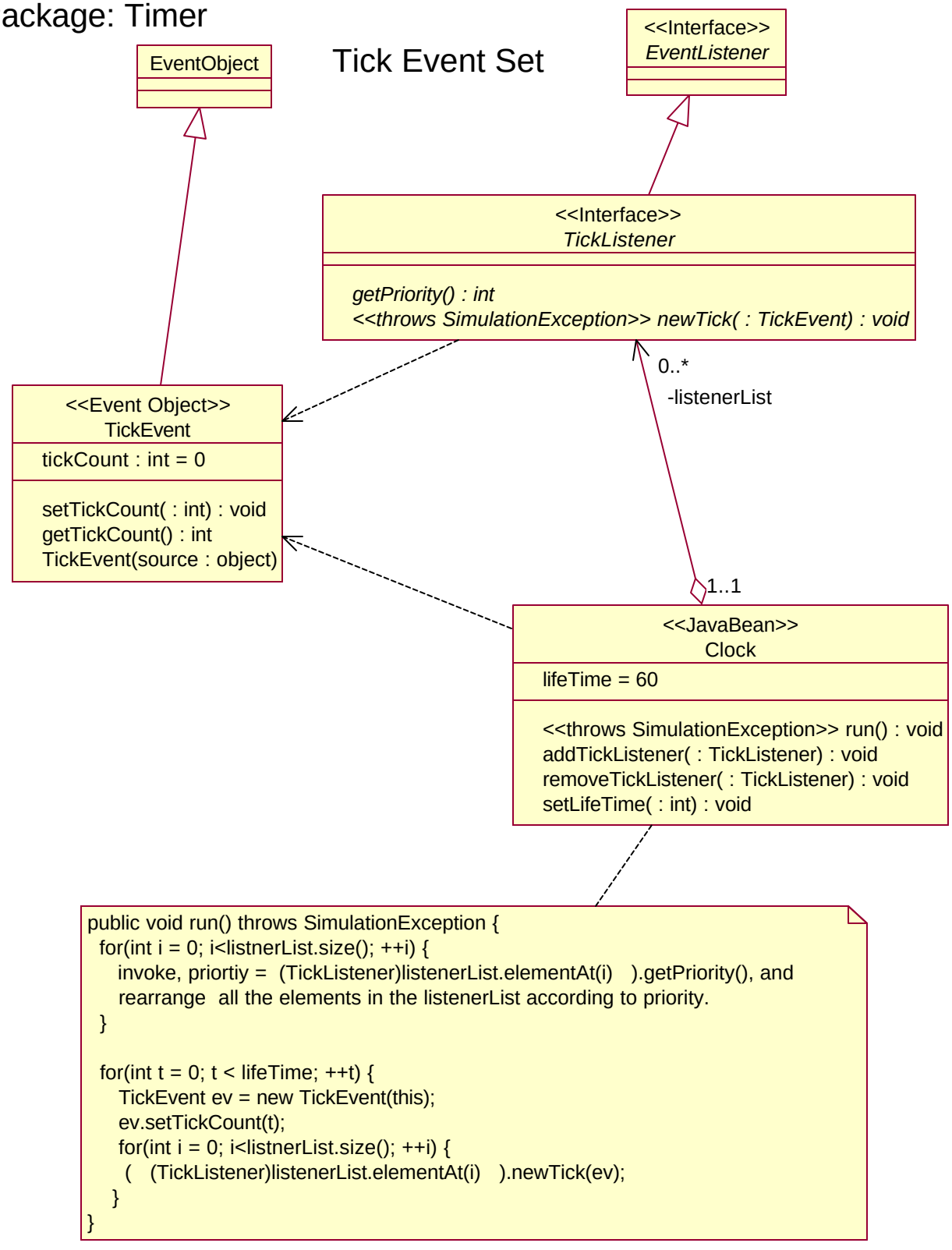
A PlotToFile plotter, which should print value to a file named "plotterFile". This plotter is a n IntervalEventListener, and listens to timeInterval set to 2.

The Plotter contains a voltage sensor that is attached to the 10 ohm resistor, R1.

The simulation is started when method, run(), in the Clock is invoked, from the main() method of the Client.

Package: Timer

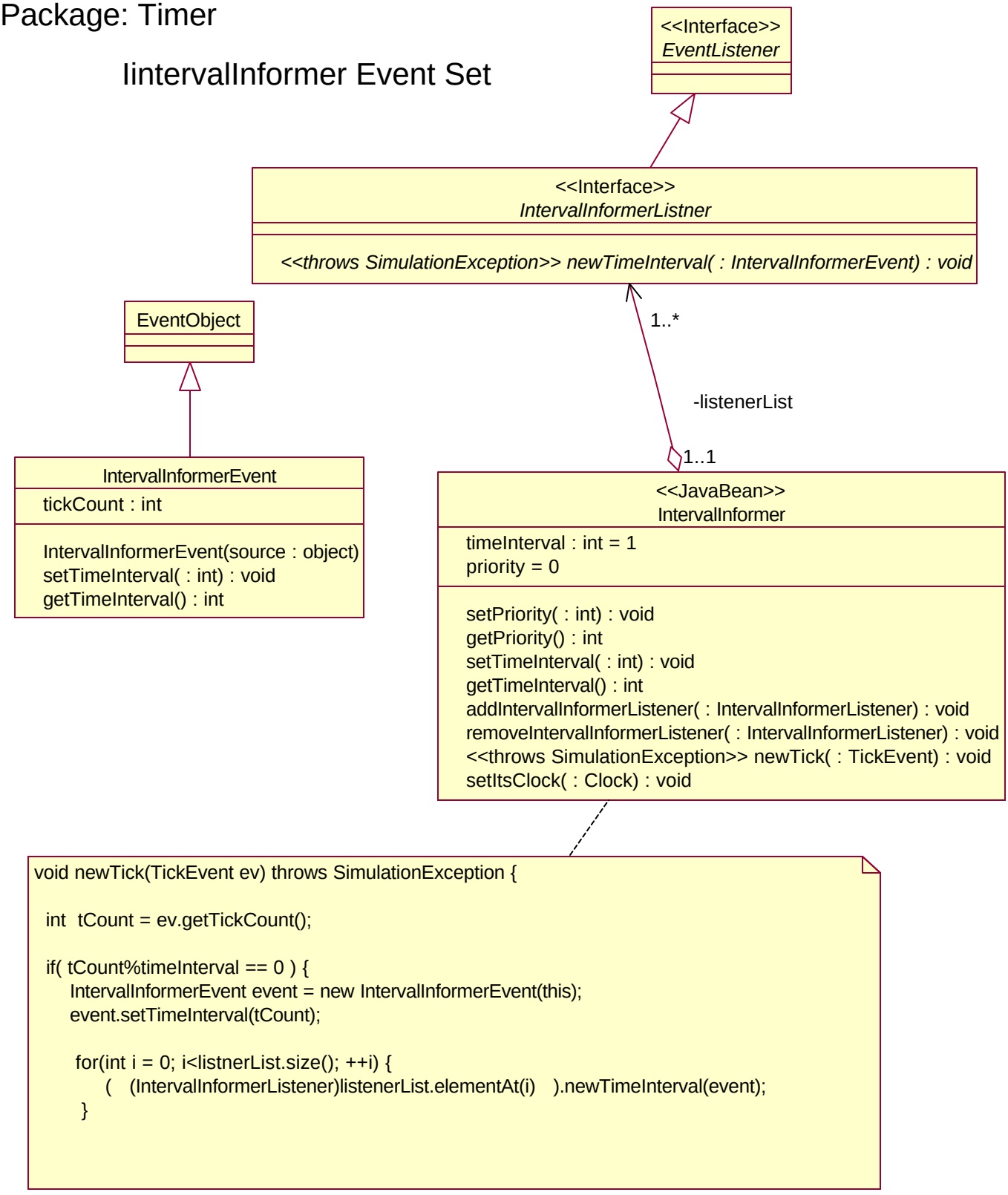
Tick Event Set




```
public void run() throws SimulationException {
  for(int i = 0; i<listnerList.size(); ++i) {
     invoke, priortiy =  (TickListener)listenerList.elementAt(i)   ).getPriority(), and
     rearrange  all the elements in the listenerList according to priority.
  }

  for(int t = 0; t < lifeTime; ++t) {
     TickEvent ev = new TickEvent(this);
     ev.setTickCount(t);
     for(int i = 0; i<listnerList.size(); ++i) {
      (   (TickListener)listenerList.elementAt(i)   ).newTick(ev);
    }
}
```

Package: Timer

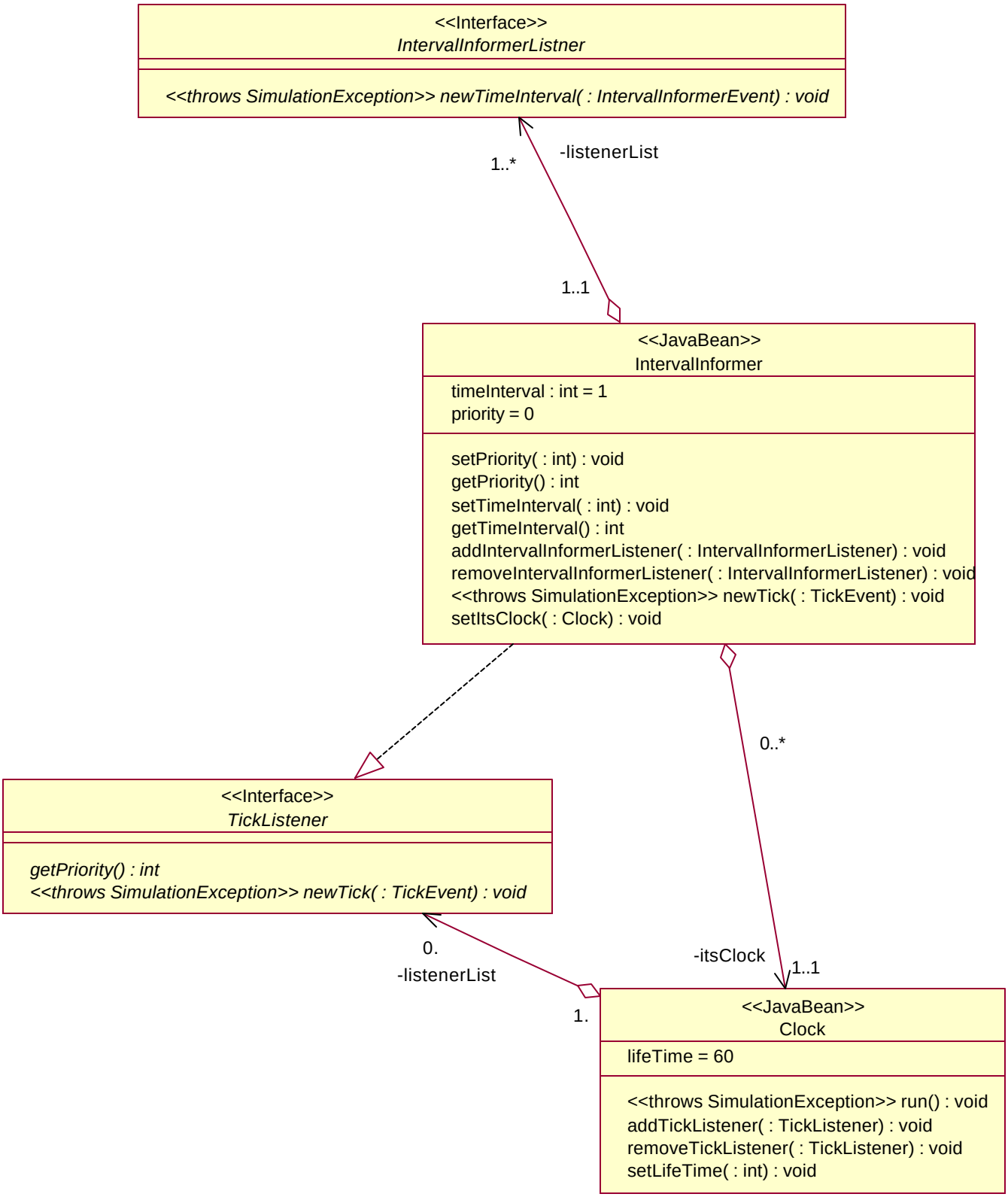
IintervalInformer Event Set



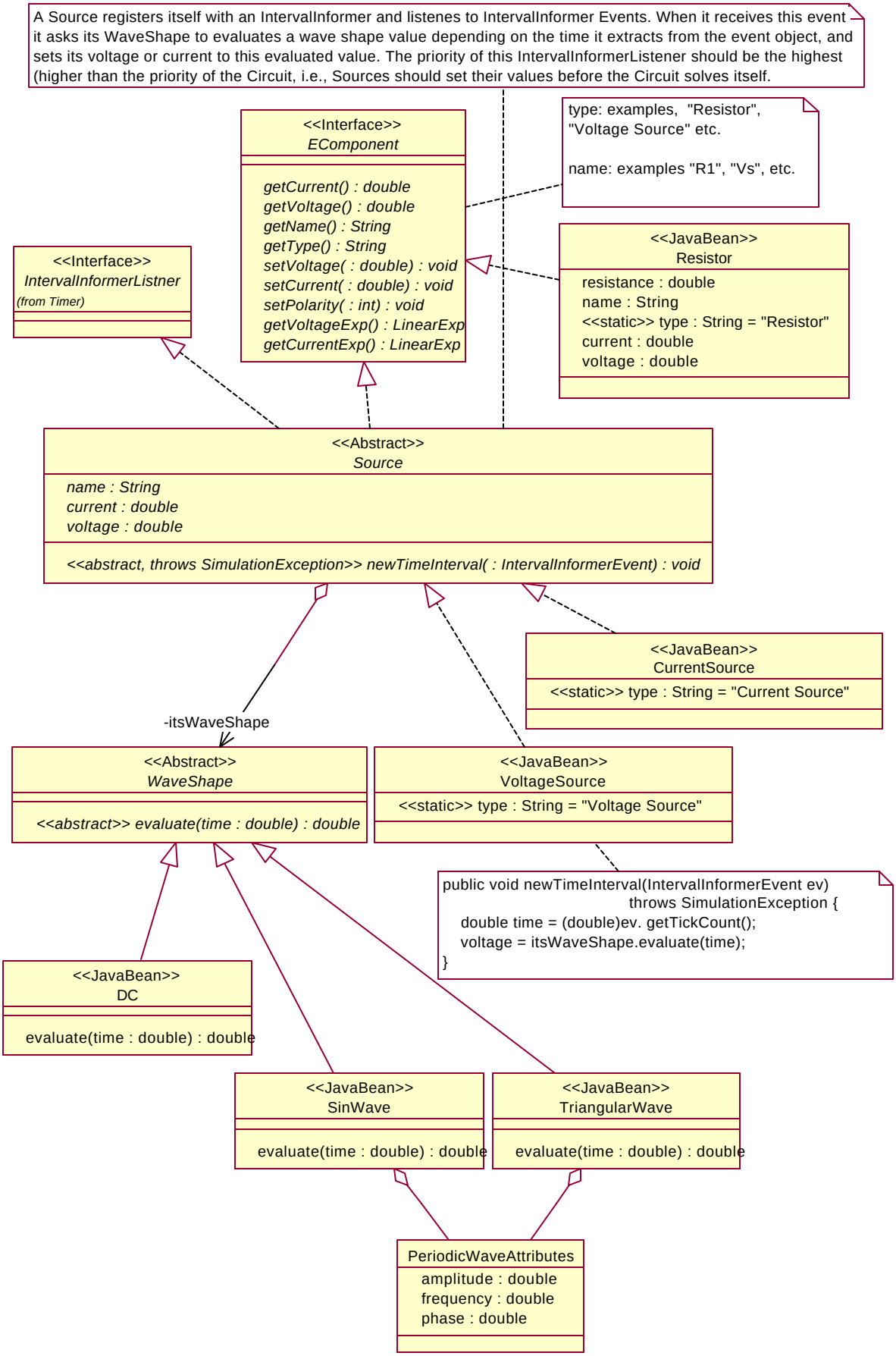

```
void newTick(TickEvent ev) throws SimulationException {

 int  tCount = ev.getTickCount();

 if( tCount%timeInterval == 0 ) {
     IntervalInformerEvent event = new IntervalInformerEvent(this);
     event.setTimeInterval(tCount);

      for(int i = 0; i<listnerList.size(); ++i) {
           (   (IntervalInformerListener)listenerList.elementAt(i)   ).newTimeInterval(event);
       }
```

Package: Timer

IntervalInformer
listenes to Tick events

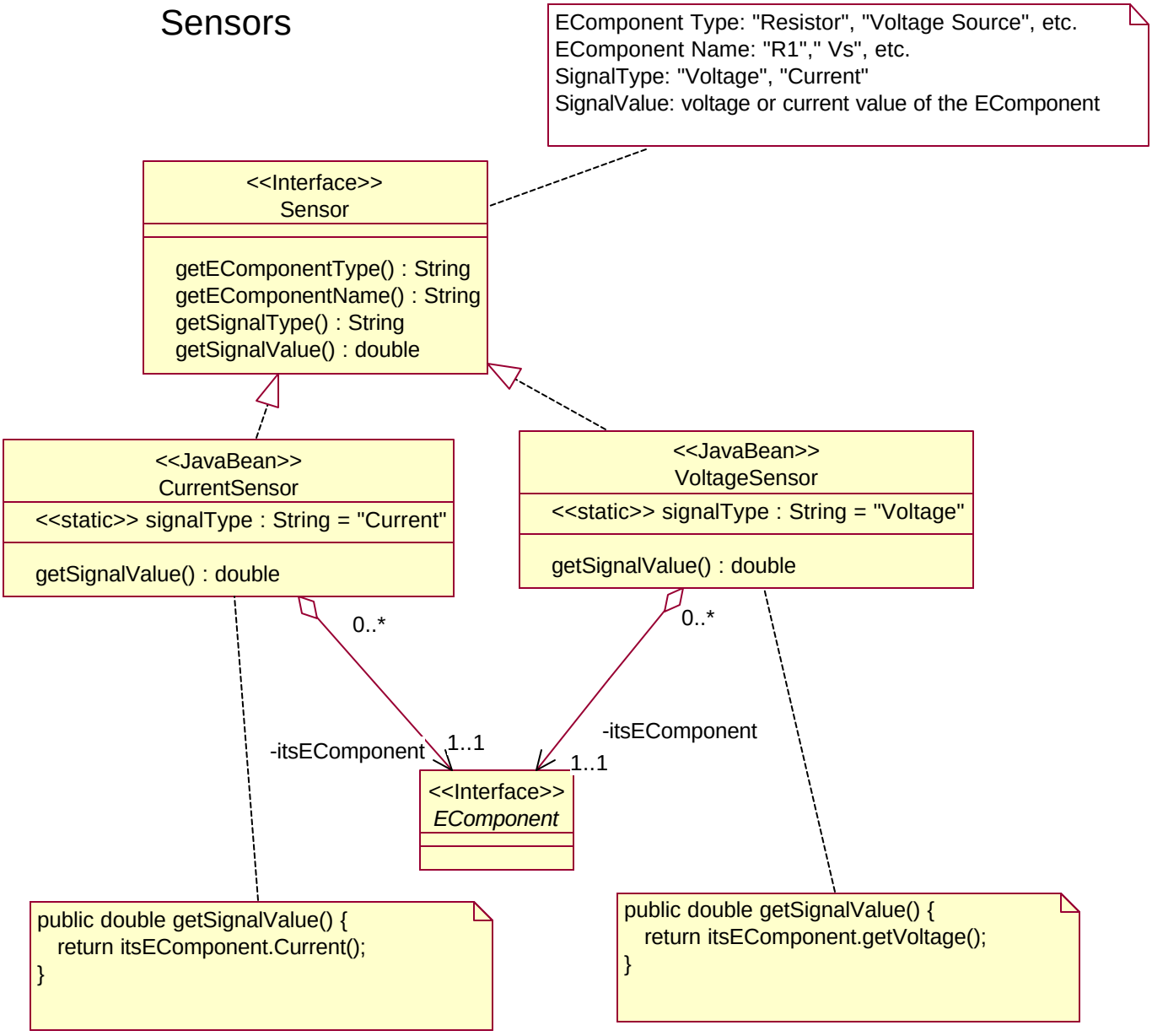


Package: EComponents



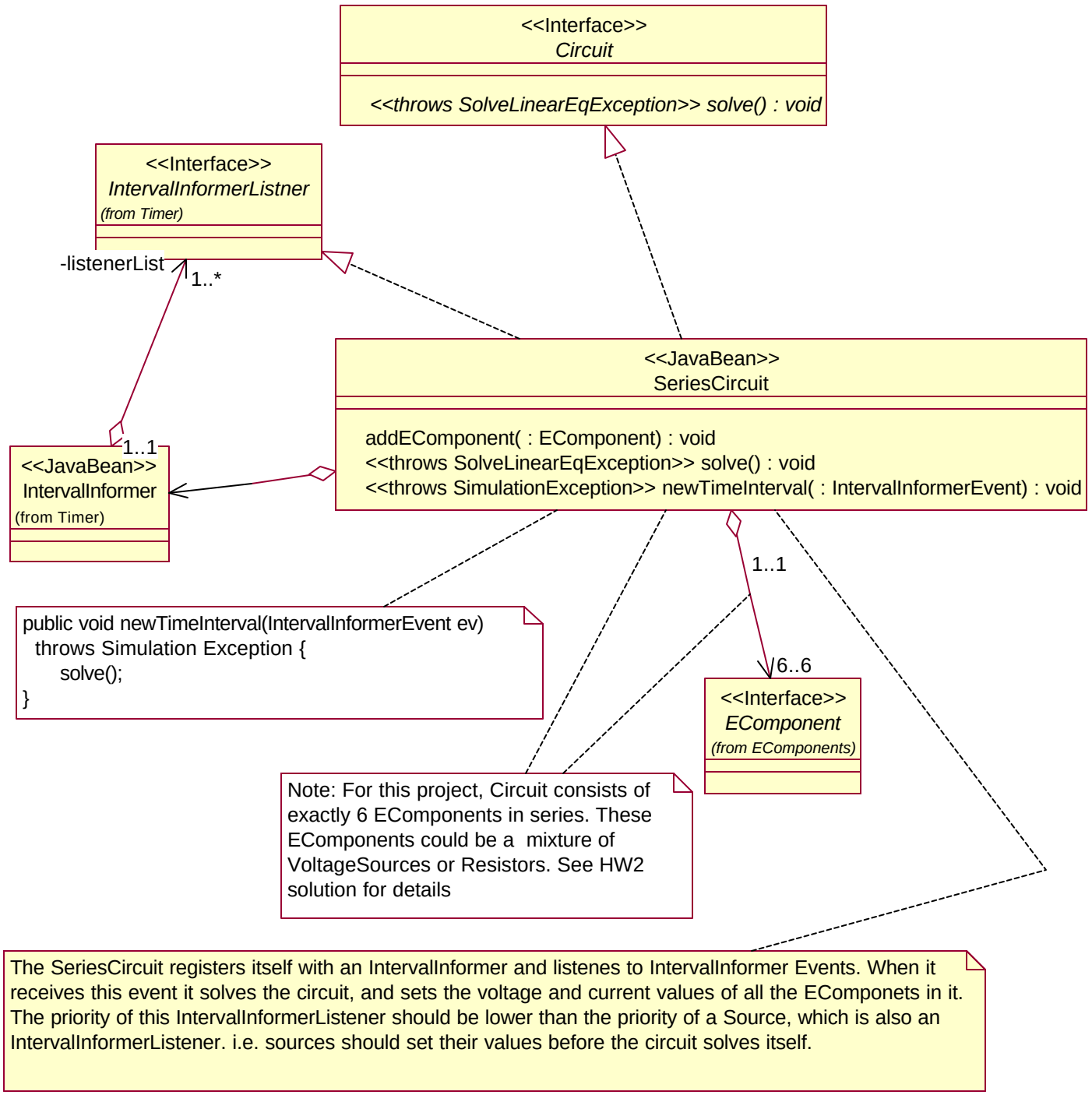
Package: EComponents

Sensors

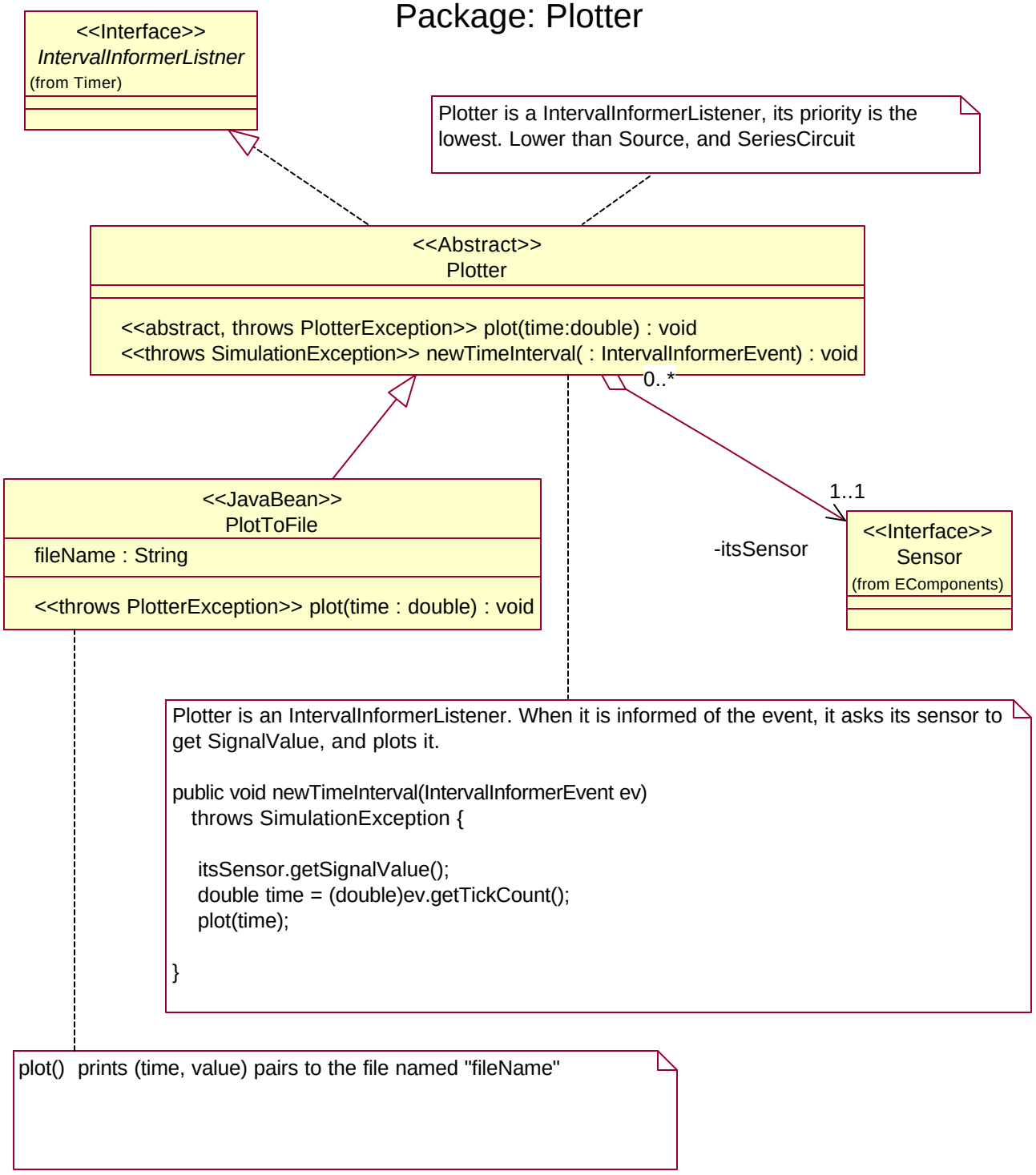


Package: Circuit

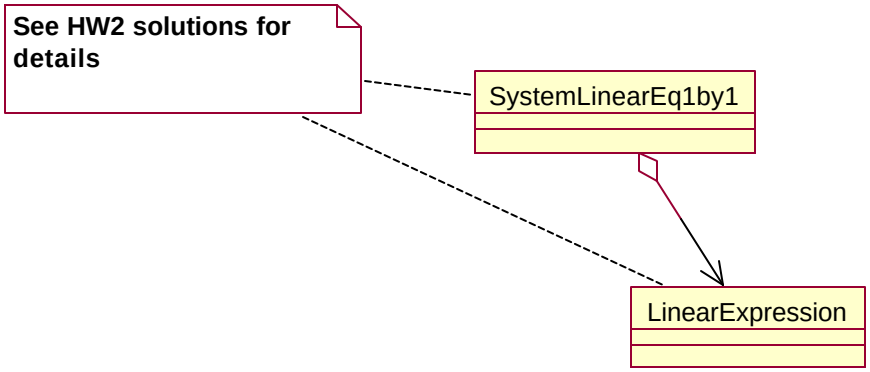
See HW2 solutions for details



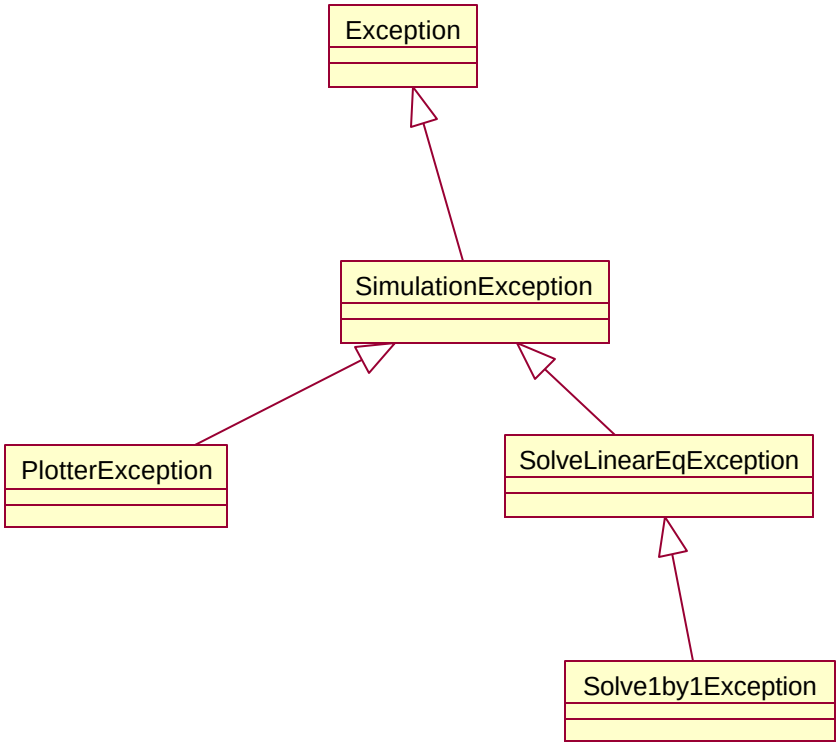
Package: Plotter



Package: LinearEq



Exceptions


Exception
SimulationException
PlotterException
SolveLinearEqException
Solve1by1Exception