#### Body

- int refCount
- + Body()
- + void attach()
- + void detach()
- + int refCount()
- + virtual ~Body()- Body(const Body &)
- Body & operator=(const , Body &)

#### ModelBody

- # string name
- # int clock
- # vector< System \* >
   systems
- # vector< Flow \* > flows
- # static vector< Model
   \* > models
- + ModelBody(string="")
- + virtual ~ModelBody()
- + const string getName () const
- + bool setName(string)
- + const int getClock() const
- + bool add(System \*)
- + bool add(Flow \*)
- + bool removeSystem(System
  \*system)
- + bool removeSystem(string name)
- + bool removeFlow(Flow \*flow)
- + bool removeFlow(string name)
- + bool removeModel(ModelIterator model)
- bool updateSystem(string currentName, double value, string newName="")
- + bool updateFlow(string currentName, System \*source, System \*target, string newName=""")
- + bool run(int startTime, int endTime)
- + SystemIterator systemsBegin()
- + SystemIterator systemsEnd()
- + int systemsSize()
- + FlowIterator flowsBegin()
- + FlowIterator flowsEnd()
- + int flowsSize()
- + virtual ModelIterator modelsBegin()
- + virtual ModelIterator modelsEnd()
- + System \* createSystem (string name="", double value=0.)
- + static bool add(Model \*)
- + static int modelsSize()
- + static Model \* createModel (string name="")
- ModelBody(const Model &model)
- ModelBody & operator =(const ModelBody &)

# 

- + ExponentialFlow(string name="")
- + ExponentialFlow(string name, System \*source, System \*target)
- + double equation()
- + FlowBody & operator =(const FlowBody &flow)

# FlowTest

FlowBody

# string name

# System \* source

# System \* target

\*, System \*)

&flow)

() const

() const

() const

+ FlowBody(string="")

+ virtual ~FlowBody()

+ FlowBody(const Flow

+ const string getName

+ bool setName(string)

+ System \* getSource

+ System \* getTarget

+ bool clearSource()

+ bool clearTarget()

+ FlowBody & operator

=(const FlowBody &flow)

+ virtual double equation()=0

+ bool setSource(System \*)

+ bool setTarget(System \*)

+ FlowBody(string, System

- + FlowTest()
- + FlowTest(string name)
- + FlowTest(string name, System \*source, System \*target)
- + FlowTest(Flow &flow)
- + double equation()
- + FlowBody & operator =(const FlowBody &flow)

# logisticFlow

- + logisticFlow(string name="")
- + logisticFlow(string name, System \*source, System \*target)
- + double equation()
- + FlowBody & operator =(const FlowBody &flow)

## SystemBody

### # string name

# double value

- + SystemBody(string ="", double=0.)
- + virtual ~SystemBody()
- + const string getName () const
- + bool setName(string)
- + const double getValue () const
- + bool setValue(double)
- SystemBody(const System &system)
- SystemBody & operator =(const SystemBody &)