Basic Class Diagram Examples

Name of the Class
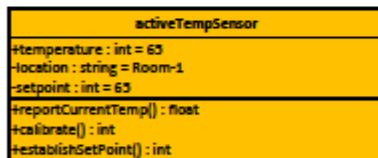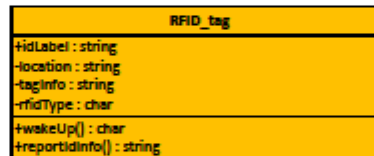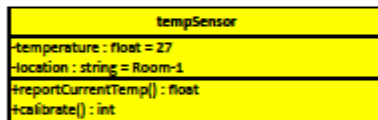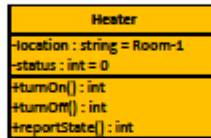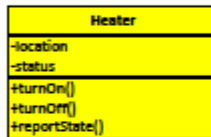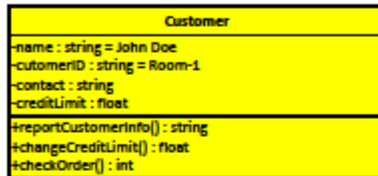
Important Characteristics
(Properties, Attributes)

Responsibilities (Behavior
functions, Methods)

Visibility
Private: label '-'
Public: label '+'

Customer

-name : string = John Doe
-cutomerID : string = Room-1
-contact : string
-creditLimit : float

+reportCustomerInfo() : string
+changeCreditLimit() : float
+checkOrder() : int

Heater

-location
-status

+turnOn()
+turnOff()
+reportState()

Heater

-location : string = Room-1
-status : int = 0

+turnOn() : int
+turnOff() : int
+reportState() : int

tempSensor

-temperature : float = 27
-location : string = Room-1

+reportCurrentTemp() : float
+calibrate() : int

RFID_tag

+idLabel : string
-location : string
-tagInfo : string
-rfidType : char

+wakeUp() : char
+reportIdInfo() : string

activeTempSensor

+temperature : int = 65
-location : string = Room-1
-setpoint : int = 65

+reportCurrentTemp() : float
+calibrate() : int
+establishSetPoint() : int

Objects and Relationship Examples
** Links: Peer-to-Peer or Client/Supplier relationship
**Aggregation: a Whole/Part Hierarchy

Three Roles of a Link Relationship:

Controller object:
* Can operate on other objects
* But is not operated by other object

Server object:
* Doesn't operate on other objects
* It is only operated on by other objects

Proxy object:
* It can both operate on other objects and be operated on by other objects

Proxy object

```
Value
```

DisplayPanel

0.1: adjust ↑

Server object

FlowController

Controller object
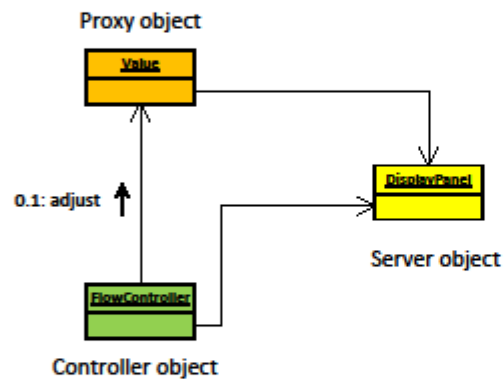
Links relationship

Objects and Relationship Examples
** Links: Peer-to-Peer or Client/Supplier relationship
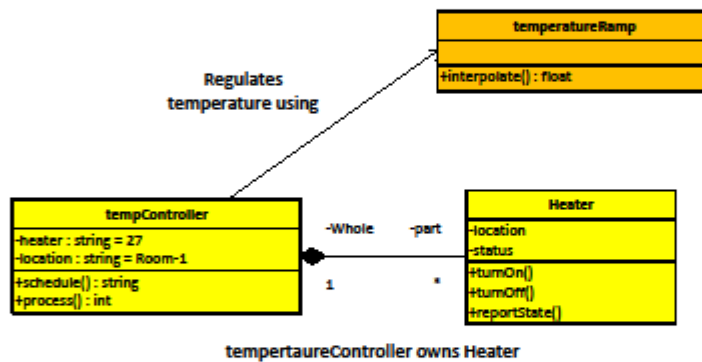**Aggregation: a Whole/Part Hierarchy

Aggregation Relationships:

With Physical Containment (Example):
* Airplane is composed on: wings, engines, landing gears, and so on

Without Physical Containment:
* Shareholder owns a share
* Whole/Part relationship

Regulates
temperature using

temperatureRamp

+interpolate() : float

tempController

-heater : string = 27
-location : string = Room-1

+schedule() : string
+process() : int

-Whole   -part

1   *

Heater

-location
-status

+turnOn()
+turnOff()
+reportState()

tempertaureController owns Heater

Aggregation relationship