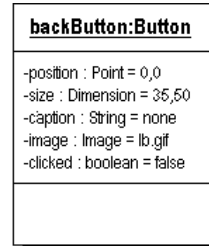


State and Behavior

The second property is **object state**. The state of an object includes all the information about the object **at a particular time**. Take a look at the "Back" button on your Web browser. The UML (Unified Modeling Language) **object diagram** to the right displays a **Button** object named **backButton**. A **Button** object might have attributes like:

- **Position**: where the button is located on the screen
- **Size**: the button's width and height
- **Caption**: any text, such as the word "Back," that the button displays
- **Image**: any icon or image that is displayed on the button's surface
- **Clicked**: whether or not the button is currently selected (pressed)

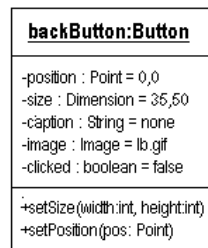


The state of the object is represented by the **values of those attributes**. The **backButton** may display an arrow image but no text, and, if you click on the button with your mouse, its **clicked** state may change from **false** to **true**.

Object Behavior

The third property shared by all objects, and what differentiates them from structure types, is **behavior**. The behavior of an object consists of the messages that it responds to.

In the UML diagram on the right, the behavior is implemented by the **member functions** appearing in the bottom portion of the box. You ask the **backButton** object to change its size, for instance, by sending it a message with the desired size like this:



```
backButton.setSize(300, 100);
```

Since the **backButton** object has a **setSize()** member function, (as shown in the UML diagram), it does as you've asked.



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