Component Variables

- Objects store information in **variables**.
- **variable**: a portion of memory reserved for storing a value.
- **component variable**: a variable that is a permanent part of an object; memory space for the variable is allocated when the object is created, and the variable exists as long as the object exists.
Component Variables (cont.)

- Syntax:

```java
private variableType variableName;
```

- Information should not be directly available to clients; clients should access information only through queries and commands.
Back to the *Counter* class

- Remember that the class needed to ‘Know’:
  - the value of count.
- We will call this variable `tally`.

```java
public class Counter {
    ...
    private int tally;
    ...
} // end of class Counter
```

- Every *Counter* object will have a component that is an `int` variable named `tally`. 
the name of the variable

Counter

tally 10

the value of the variable at some time

the variable
public class Explorer {

    ... 
    private String playerName;
    private rooms.Room room;
    private int strengthPoints;
    private int staminaPoints;

    ...

} // end of class Explorer
Explorer

playerName: "Marjorie"

room:

strengthPoints: 10

staminaPoints: 100

Room
Constructors

- Every constructor should ensure that all of a newly created object’s component variables are initialized appropriately.