
CSE 142

Pictures & Vocabulary – a Review So Far

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Generic Picture

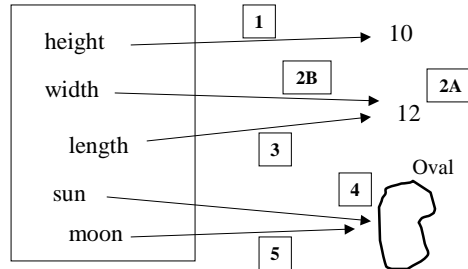
name land	object land
------------------	--------------------

The situation in pictures after:
`int radius = 10;`
`Rectangle box = new Rectangle();`
`House hut = new House();`

Names always refer to objects.

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Declarations and Simple Expressions



1. The expression 10 is evaluated, producing the value 10. The name height is bound to that value.
- 2A. The expression height + 20 / height is evaluated, producing the value 12.
- 2B. The name width is bound to the value.
3. The expression width is evaluated, producing the value 12. The name length is bound to that value.
4. The expression new Oval (...) is evaluated, producing a new Oval object, which is the value of the expression. The name sun is bound to that value.
5. The expression sun is evaluated, producing the an Oval object as its value. The name moon is bound to that value.

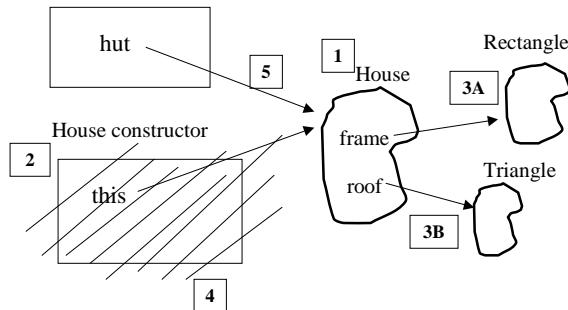
The situation in pictures after:
int height = 10;
int width = height + 20 / height;
int length = width;
Oval sun = new Oval (20, 30, 50, height,
Color.green, true);
Oval moon = sun;

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G1-3

House Constructor



1. A new House object is created.
2. A new scratch space is created with the name **this** in it. The name this is bound to the new House object.
- 3A. this.frame is bound to a new Rectangle object, the result of evaluating the expression new Rectangle(...).
- 3B. this.roof is bound to a new Triangle object, the result of evaluating new Triangle(...).
4. The constructor is done. The scratch space created for it is now destroyed. The value of the expression new House() is the new House object that was created.
5. The name hut in the first name space is bound to the result of the expression new House().

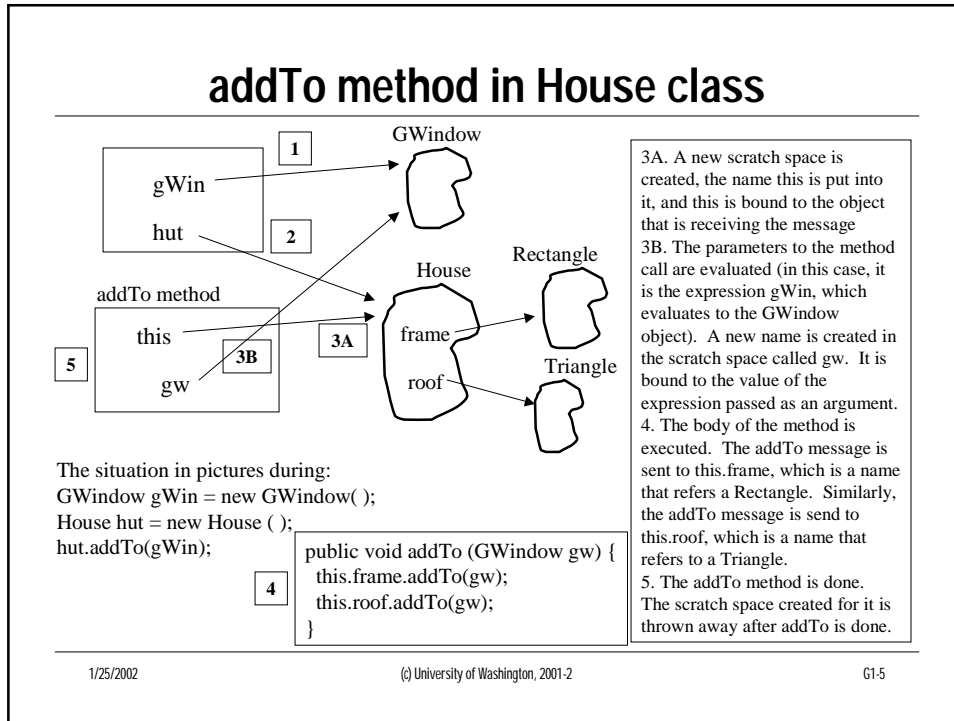
The situation in pictures during:
House hut = new House ();

```
public House () {
    this.frame = new Rectangle (...);
    this.roof = new Triangle (...);
}
```

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G1-4



Vocabulary & Concepts – a Checklist

- **Names (variables), types (type compatibility), expressions**
- **Declarations & assignment (binding values to names)**
 - order of evaluation – expressions first
 - initialization of variables
- **Class vs class instance (object)**
- **Class definition, constructor, method**
- **Instance variable vs local variable (in a method)**
 - Meaning of “this”
 - scratch (temporary) space used by methods vs object space
- **Details of sending a message (calling a method)**
- **Return statement and function return values**
- **Debugging: breakpoints, inspecting objects**