

Lecture

The **is** operator



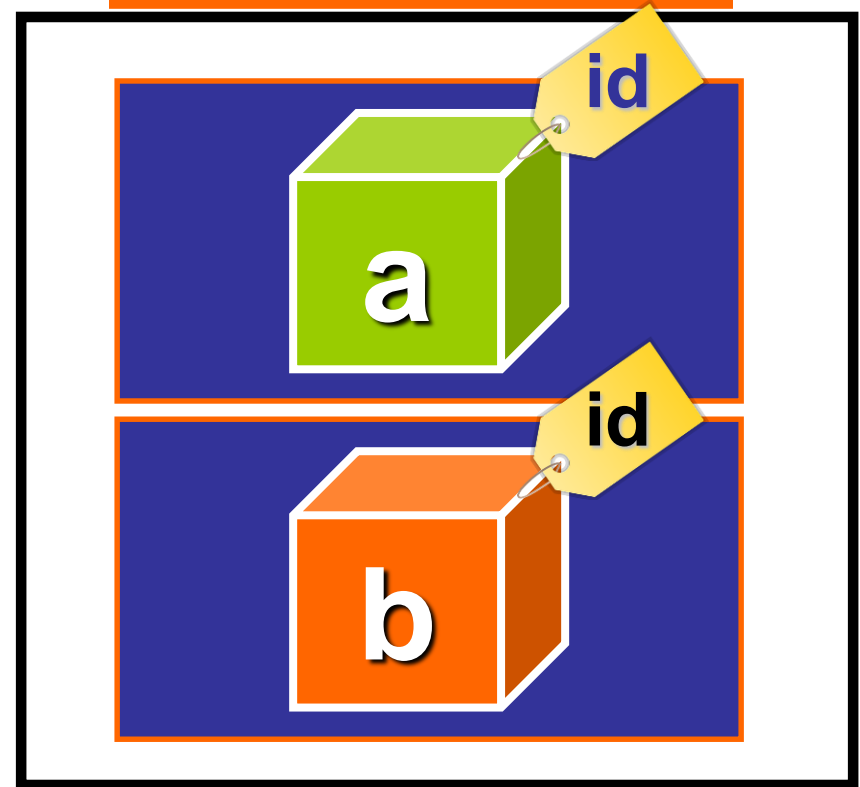


The **is** operator

```
>>> a = [6, 2, 6, 2]
```

```
>>> b = [6, 2, 6, 2]
```

Memory



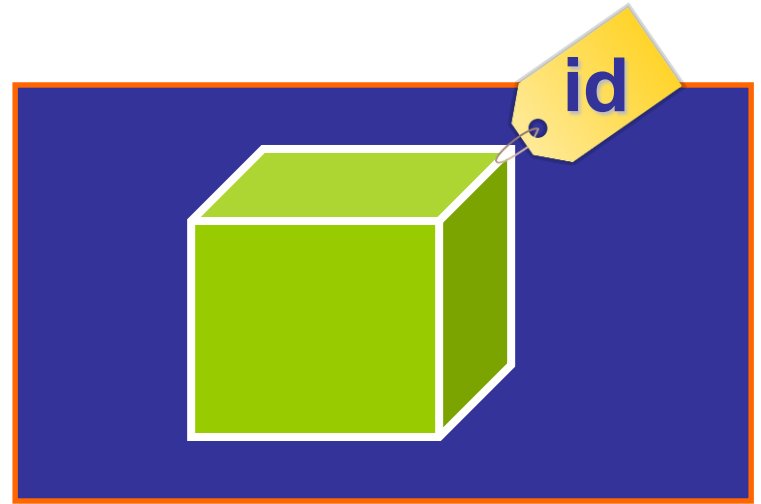


The `is` operator

```
>>> a = [6, 2, 6, 2]
```

```
>>> b = a
```

Memory



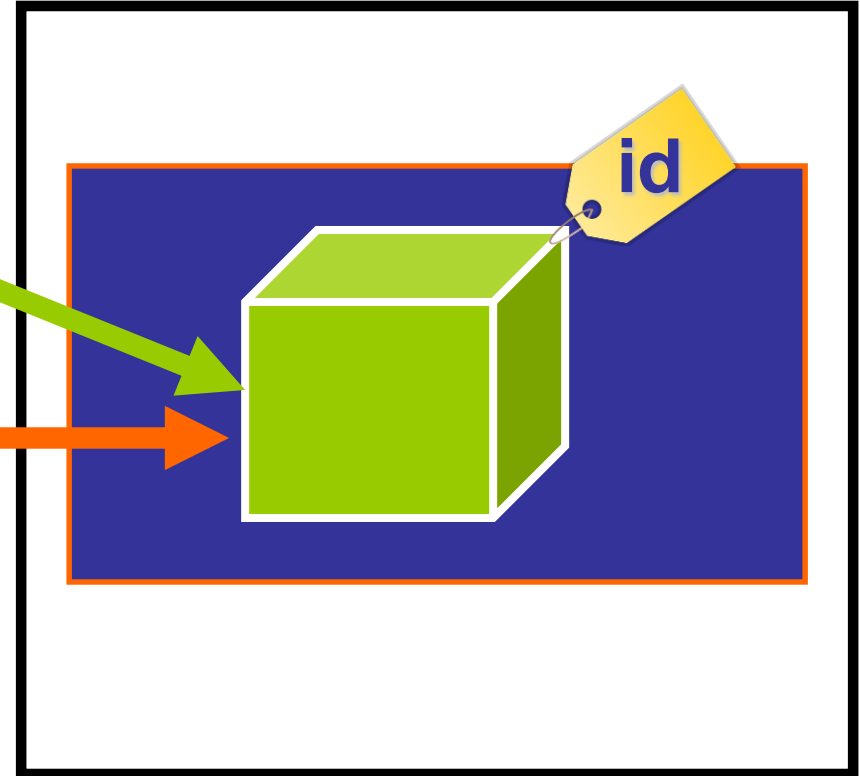


The `is` operator

```
>>> a = [6, 2, 6, 2]
```

```
>>> b = a
```

Memory





The **is** operator





The `is` operator

a is b



The **is** operator

a is b

- **True**
 - If a and b reference the **same object**
- **False**
 - If a and b **don't** reference the same object



The `is` operator

6.10.3. Identity comparisons

The operators `is` and `is not` test for an object's identity: `x is y` is true if and only if `x` and `y` are the same object. An Object's identity is determined using the `id()` function. `x is not y` yields the inverse truth value. [4]



The **is** operator

6.10.3. Identity comparisons

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The `is` operator

6.10.3. Identity comparisons

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The `is` operator

```
>>> a = [5, 2, 1, 8, 3]
>>> b = [5, 2, 1, 8, 3]
>>> a is b
False
>>> a = ("a", "b", "c")
>>> b = ("a", "b", "c")
>>> a is b
False
>>> a = "Hello, World!"
>>> b = "Hello, World!"
>>> a is b
False
>>> a = "Hi"
>>> b = a
>>> a is b
True
```



The `is` operator

```
>>> a = [5, 2, 1, 8, 3]
>>> b = [5, 2, 1, 8, 3]
>>> a is b
False
```

```
>>> a = ("a", "b", "c")
>>> b = ("a", "b", "c")
>>> a is b
False
```

```
>>> a = "Hello, World!"
>>> b = "Hello, World!"
>>> a is b
False
```

```
>>> a = "Hi"
>>> b = a
>>> a is b
True
```



The `is` operator

```
>>> a = [5, 2, 1, 8, 3]
```

```
>>> b = [5, 2, 1, 8, 3]
```

```
>>> a is b
```

```
False
```

```
>>> a = ("a", "b", "c")
```

```
>>> b = ("a", "b", "c")
```

```
>>> a is b
```

```
False
```

```
>>> a = "Hello, World!"
```

```
>>> b = "Hello, World!"
```

```
>>> a is b
```

```
False
```

```
>>> a = "Hi"
```

```
>>> b = a
```

```
>>> a is b
```

```
True
```



The `is` operator

```
>>> a = [5, 2, 1, 8, 3]
```

```
>>> b = [5, 2, 1, 8, 3]
```

```
>>> a is b
```

```
False
```

```
>>> a = ("a", "b", "c")
```

```
>>> b = ("a", "b", "c")
```

```
>>> a is b
```

```
False
```

```
>>> a = "Hello, World!"
```

```
>>> b = "Hello, World!"
```

```
>>> a is b
```

```
False
```

```
>>> a = "Hi"
```

```
>>> b = a
```

```
>>> a is b
```

```
True
```



The `is` operator

```
>>> a = [5, 2, 1, 8, 3]
```

```
>>> b = [5, 2, 1, 8, 3]
```

```
>>> a is b
```

```
False
```

```
>>> a = ("a", "b", "c")
```

```
>>> b = ("a", "b", "c")
```

```
>>> a is b
```

```
False
```

```
>>> a = "Hello, World!"
```

```
>>> b = "Hello, World!"
```

```
>>> a is b
```

```
False
```

```
>>> a = "Hi"
```

```
>>> b = a
```

```
>>> a is b
```

```
True
```



The **is** operator

is

vs.





The **is** operator

is → Same Object

== → Same Value



The **is** operator

Same Value

≠

Same Object




The `is` operator

```
>>> a = [1, 6, 2, 6]
>>> b = [1, 6, 2, 6]
>>> a is b
False
>>> a == b
True
```



The `is` operator



```
>>> a = [1, 6, 2, 6]
>>> b = [1, 6, 2, 6]
>>> a is b
False
>>> a == b
True
```



The `is` operator

```
>>> a = [1, 6, 2, 6]
>>> b = [1, 6, 2, 6]
>>> a is b
False
>>> a == b
True
```





The `is` operator

```
>>> a = [1, 6, 2, 6]
>>> b = [1, 6, 2, 6]
>>> a is b
False
→ >>> a == b
True
```



The `is` operator

```
>>> a = [1, 6, 2, 6]
>>> b = [1, 6, 2, 6]
>>> a is b
False
>>> a == b
True
```





Now... An Example

