

Value Categories Cheat Sheet

Value Categories

Definition: Value Category

Motivation: for lvalues and rvalues.

Definition: lvalue and rvalue

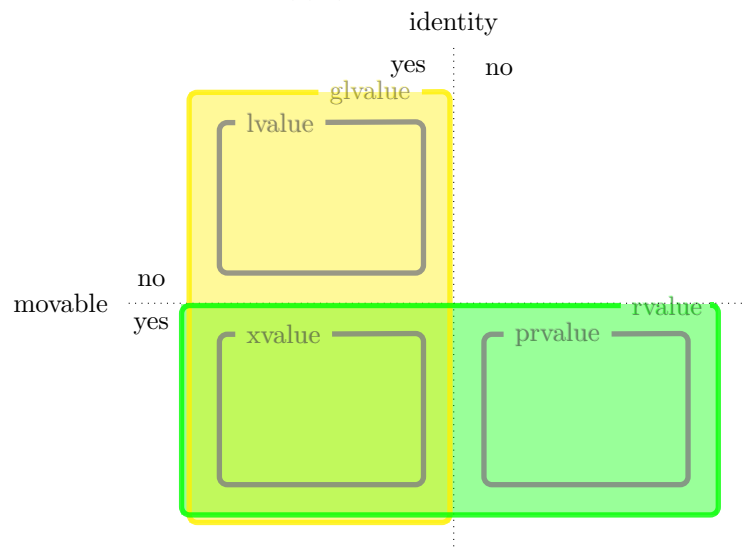
Motivation for further categories: move semantics

Motivation for further categories: perfect forwarding

Definition: xvalue, glvalue, prvalue

Overview

classical overview: W with i,I,m,M



Examples

```
enum class E { foo; bar; }
```

```
class C {  
    public:  
    int [] dataMember;  
    E enumMember;  
    // ...  
}
```

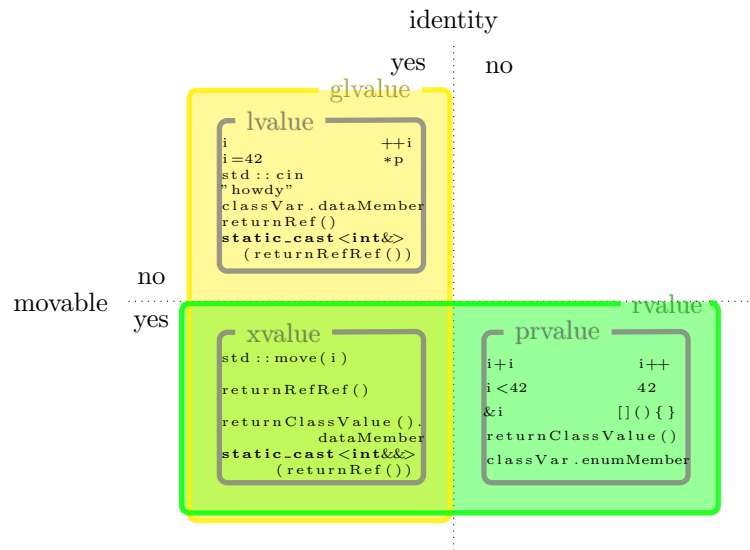
```
int i;  
int *p;  
C classVar{};  
int& returnRef();
```

1
2
3
4
5
6
7
8
9
10
11
12
13

```
int&& returnRefRef();
C returnClassValue();
```

14

15



Popular Use

move semantics (move ctor, push back, emplace, (move dtor))
 universal / forward reference
 perfect forwarding



Copyright © 2017 David Faragó.