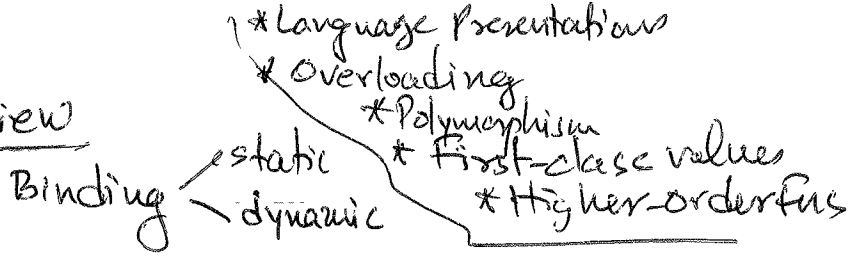


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Review



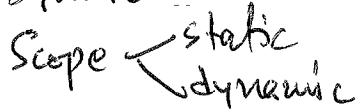
Lifetime

stackFrame (aka Activation Record)

Heap

Static Memory Allocation

Dynamic



Referencing Environment

Aliasing

Overloading: When a symbol or a name in a program or a programming language has more than one meaning.

e.g. Java

class

— only one meaning

=

— only one meaning (assignment)

static

— more than one meaning

+ , - , *

— more than one meaning

static

```
public static int max (int a, int b) {
```

↓
}

↑ makes max() a class/shared function

also

```
public
```

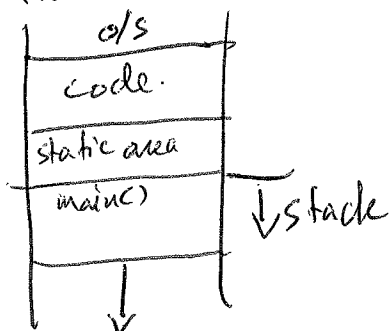
```
static void f ( — ) {
```

```
static int x;
```

← x is a static variable

↓
}

BTW: static variables' storage is allocated at compile-time in a static area of the program



+ , - , * ; operator overloading

$c = a + b;$

// works for int + float.

'+' works for a, b int
and a, b float.

however, int addition + float addition
use different underlying code.

can also have User-Defined Overloading:

e.g. c++

class Polynomial {

add(Polynomial p) {

↓
}

} // Polynomial

use

Polynomial p1 = _____ ;

Polynomial p2 = _____ ;

Polynomial q ;

p2.add(~~p1~~ p1); // p2 ← p2 + p1

or define

Polynomial operator "+" (Polynomial p1,
Polynomial p2) {

↓
}

use ~~p2~~ p2 = p2 + p1 ;

Increases PL expressivity.