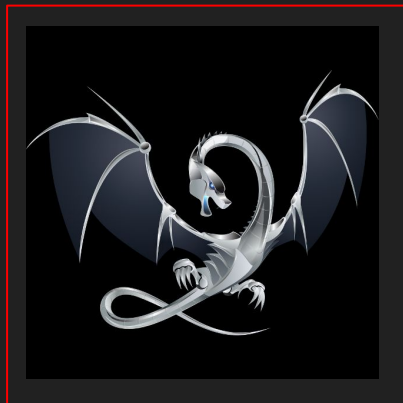


ALBS

Suhani Singhal - ss4925

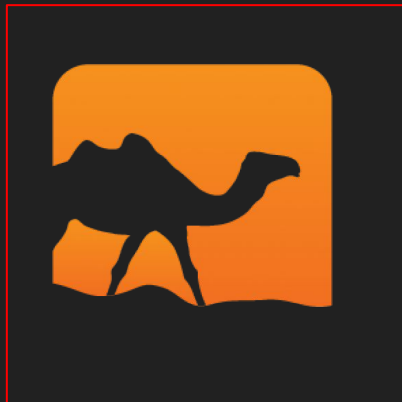
Brennan Wallace - bgw2119

LLVM



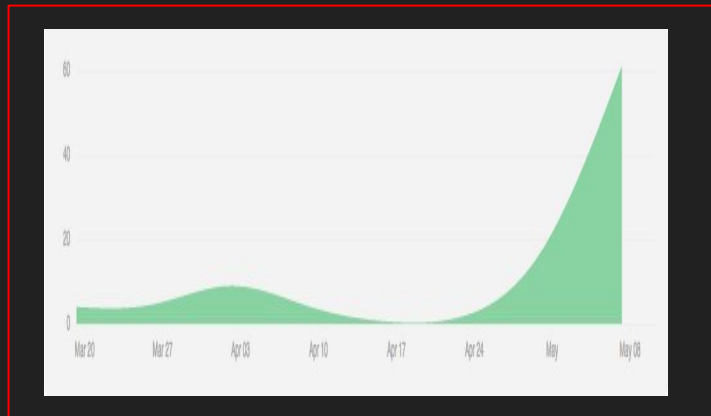
+

OCaml



=

Steep learning curve



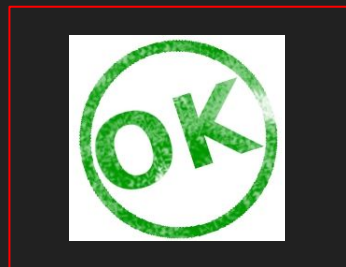
MicroC++

- +Arrays
- +Structs
- +Printing
- +Casting

2000+ LOC
100+ commits



88 test cases

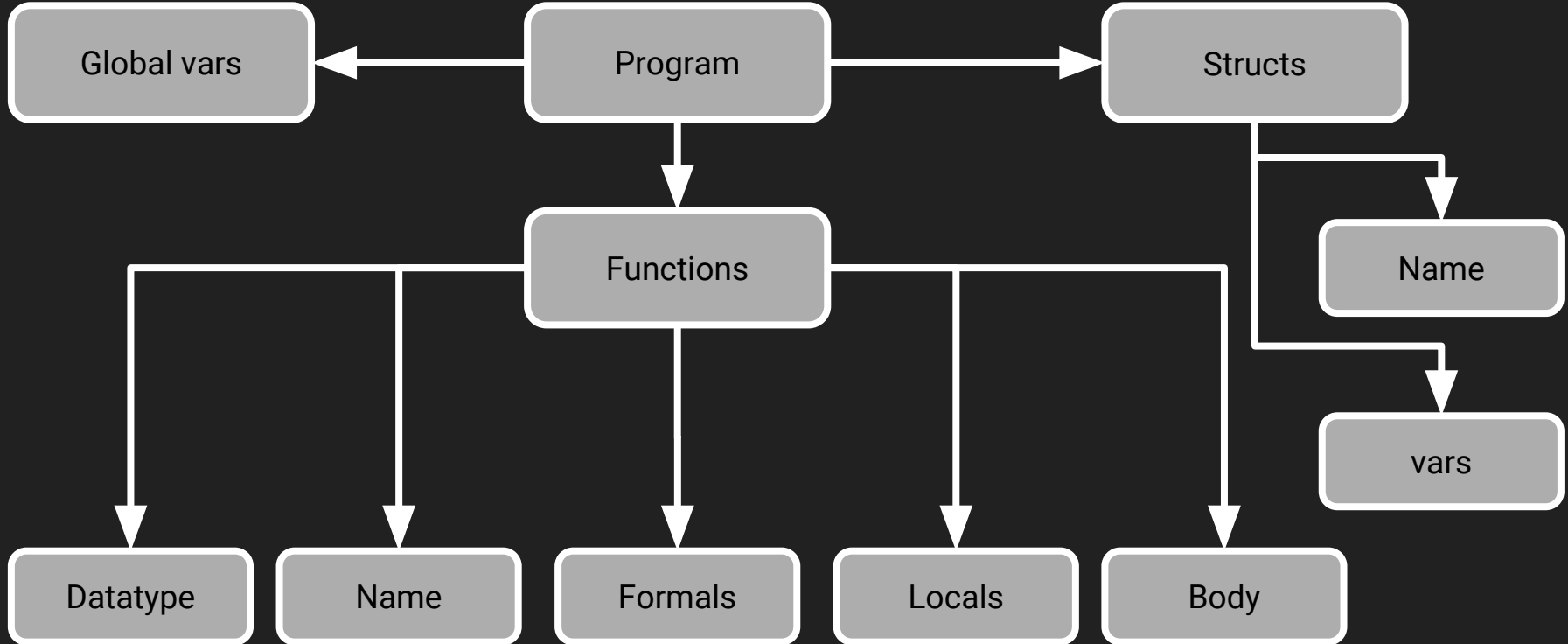


Features

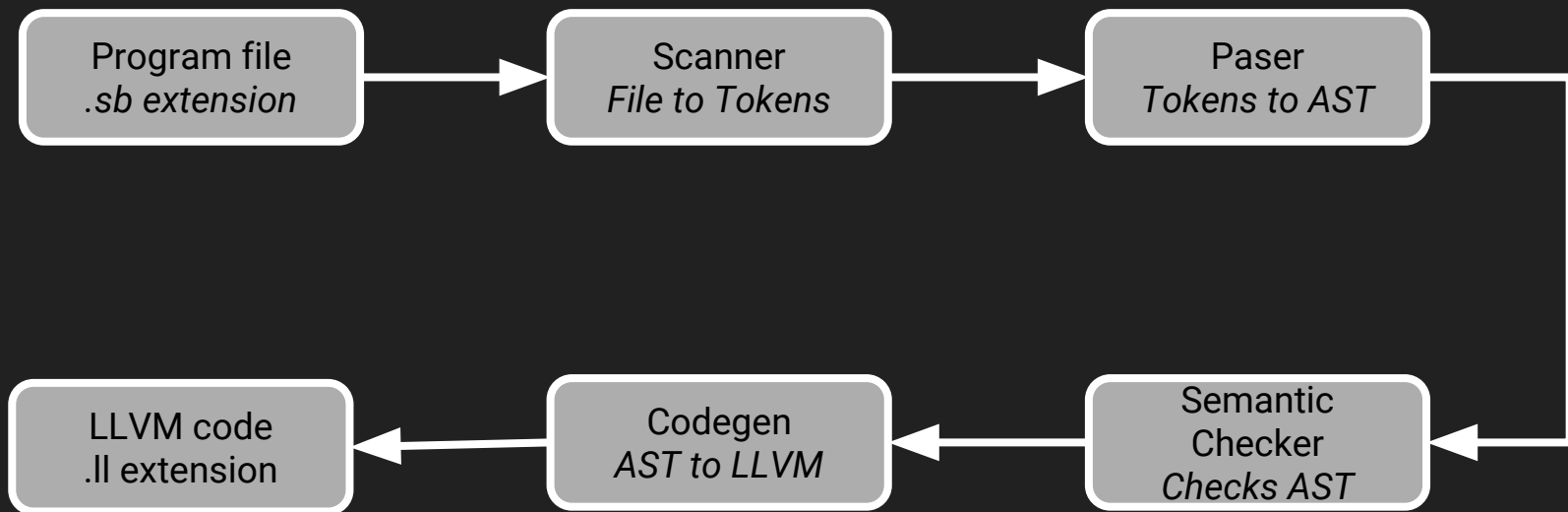
- Procedural
- Functions
- Data Types
 - Mutable
 - Static typing
 - Primitives
 - Integers
 - Floats
 - Characters
 - Booleans
 - Void
- Arrays
- Structs
- Operators
 - Binary
 - Unary
- Multiline Comments
- Implicit casting
- I/O functions

```
{ : int} main = [  
  
    print("Hello World!");  
    rtn 0;  
]
```

AST



Compiler Architecture



Arrays

```
flt[] array;  
array = new flt[2];  
  
array[0] = 2.3;  
array[1] = 5.2;  
  
print(arr[0]);
```

I/O

```
chr c;  
  
while(c != '\r'){  
  
    c = getchar();  
    print(c);  
}
```

Implicit casting

```
int i; int j;  
i = 2;  
  
j = i + 'a';
```

Datatypes

```
int i;  
chr c;  
bln b;  
flt f;
```

Structs

```
struct Person[  
  
    int age;  
    flt weight;  
    chr gender;  
]
```

```
{:int}main = [  
  
    struct Person p;  
  
    p.age = 20;  
    p.gender = 'f';  
    p.weight = 120.5;  
    rtn 0;  
]
```

Functions

```
{int flt bln : chr} helloWorld = i f b [  
  
    if(b){  
        print("Hello");  
        print(f);  
    }  
  
    rtn 'a';  
]  
  
{flt[] bln : chr} helloWorld = f_arr b [  
  
    if(b){  
        print("Hello");  
        print(f_arr[0]);  
    }  
  
    rtn 'a';  
]
```

Demo Time

Credits: Prof. Stephen Edwards, Jacob Graff