

Graph Application Language

(GAL)



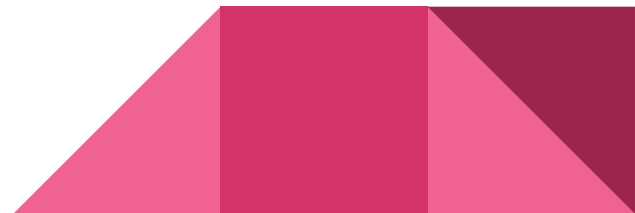
The Team

Anton: GAL language Guru

Andrew: Test Master

Donovan: Manager

Macrina: Standard Library Creator

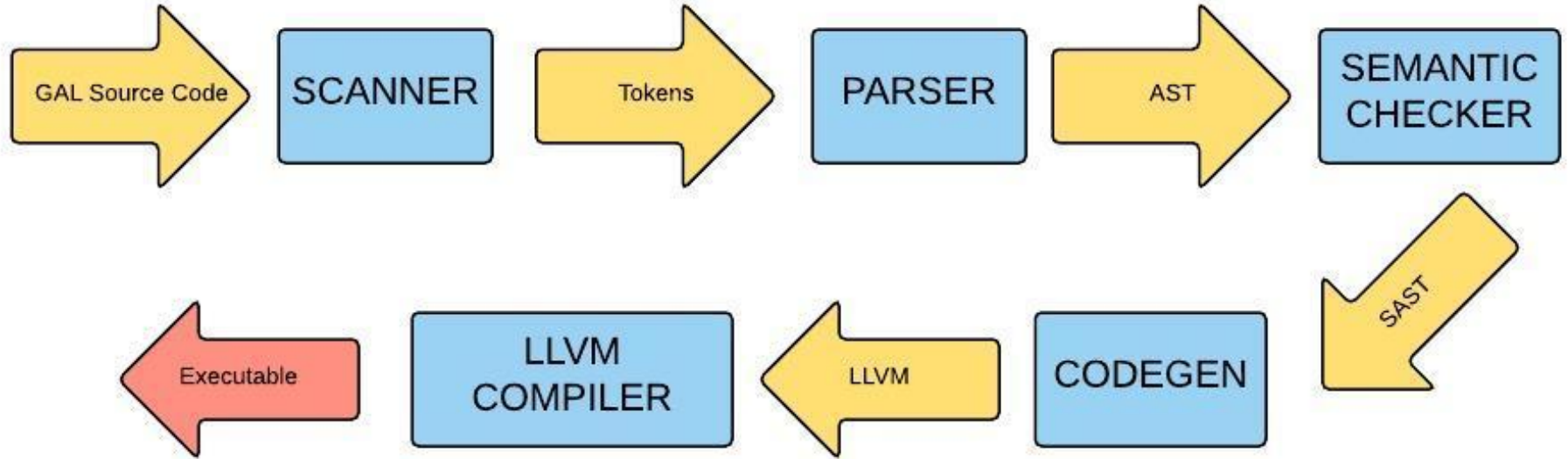


The Aim

Creating a programming language that makes graph programming a piece of cake.



Compiler Architecture



Language Features

```
/*Types*/
```

```
int  
string  
node  
edge  
ilist  
slist  
nlist  
elist
```

```
/*Declaring a Function*/
```

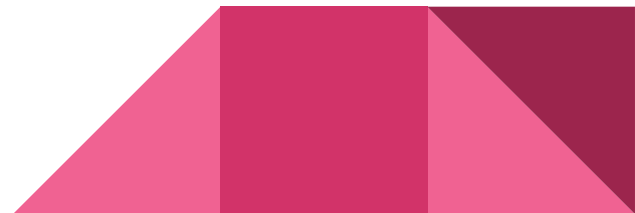
```
int foo(int bar){  
    bar = bar+1;  
    Return bar;  
}
```

```
/*Operators*/
```

```
+ - * / = > < >= <= ==  
!= ! |node/edge|
```

```
/*Control Flow*/
```

```
while(x==x){  
    print_str("HELLO");  
}
```



Language Features

List of Built-Ins for I/O and others:

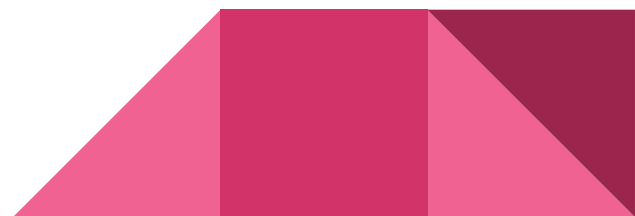
- + print_int
- + print_str
- + print_endline
- + streq

List of Built-Ins for Graph:

- + length()
- + next()
- + pop()
- + peek()
- + add()

List of Built-Ins for Edges:

- + source()
- + dest()
- + weight()



The First Program- Hello World

```
/*Things written in here are comments
and they are multi line compatible*/

int main(){
    string x = "HELLO WORLD!";
    print_str(x);
    /*Defining a Graph using node*/
    node n1 = |"A":2,"B",3,"C",4,"D"|;
    /*Adds an edge to the existing graph and
    updates it*/
    n1 = eadd(|"B",5,"E"|,n1);
    /*standard library function to print the
    list of edges*/
    print_elist(n1);
}
```



Test Suite

```
$ ./testall.sh      -n
-n                fail_assignment_edge1...
test_assignment_list1... OK
OK               -n
-n test_boolean_false... fail_assignment_edge2...
OK              OK
-n test_boolean_true... -n
OK             fail_assignment_int_to_s
-n test_create_edge... tring...
OK            OK
-n            -n
test_get_heaviest_graph_ fail_assignment_string_t
edge...       o_int...
OK           OK
```



DEMO



Lessons Learned

- + Programming in pairs helps to weed out bugs in more than half the time.
- + Git commit, Git add and Git push all day
- + Use Ubuntu
- + OCaml's pattern matching is a god send.

