ELL

The English Language Language

MOTIVATION

- Our language provides core file manipulation operations and storage structures, which allow us to mine statistics between given documents, as well as other tasks related to document manipulation.

ROLES

Manager	Emily Bau
Language Guru	Nivita Arora
System Architect	Candace Johnson
System Architect	Michele Lin
Tester	Rabia Akhtar

DECLARATION

Simple Declaration

```
int a;
```

Global Declaration with Initialization - Literals only

```
string b = “hello”;
bool c = true;
```

Local Declaration with Initialization - Literals and expressions

```
float d = 1.2;
float e = d + 2;
```

PRIMITIVES, TYPES AND OPERATORS

Primitive

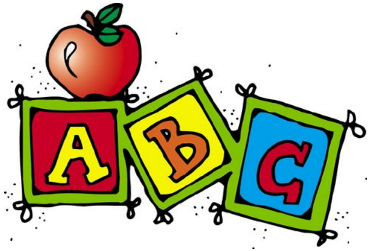
- Int
- Double
- Boolean
- Char

Other types

- String
- File_ptr
- Array
- Struct

Operators

- +,-,*,/,==,!=,<,<=,>,>=
- -,!
- &&, ||
- ++,--



STRINGS AND BUILT IN FUNCTIONS

String

```
string word = "hello world";
```

String Operations

strlen
strcmp
strcat
strcpy
strget

Word Operations

is_stop_word
word_count
string_at
to_lower

Other

calloc
free

print
print_double
print_char
print_string
print_all

open
close
read
write

DATA STRUCTURES

Arrays:

Accepts int, float and string types

Creation:

```
string[] s
```

Initialization:

```
s = [“emily, “nivita”, “ michele”];
```

Index Assign:

```
s[3] = [“rabia”];
```

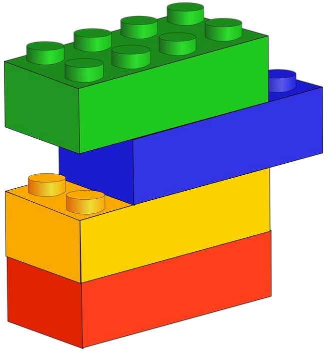
Access an index:

```
print(s{|0|};  /* prints emily */
```

Struct:

Creation:

```
struct Doc {
    string File_name;
    string[] Content;
    int Word_count;
};
```



Initialization:

```
struct Doc document;
```

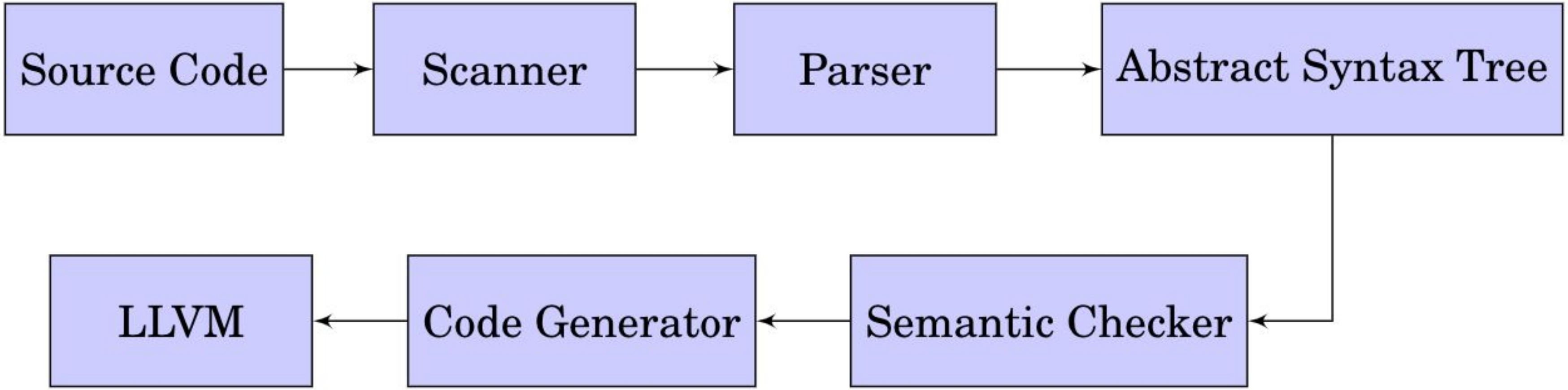
Index Assign:

```
document.File_name = "hello.txt";
```

Access an index:

```
print_all(document.File_name);
```

PROGRAM STRUCTURE



TESTING & COMPILING

- Our testing suite is built on top of the MicroC
- We added additional tests for our new features
- Three demo codes that test integration of features

```
$ make
$ ./run_english <file_name>
```

```
$ make
$ ./testall.sh
```

PROJECT TIMELINE

1. Hello World
2. Floats and File I/O
3. Basic integer arrays
4. Structs
5. Strings
6. Variable initialization
7. Built-in and linked functions
8. String and float arrays
9. Characters
10. Demo code
11. Report

DEMO

Demos

1. word_count.ell
2. essay_topics.ell
3. lcs.ell