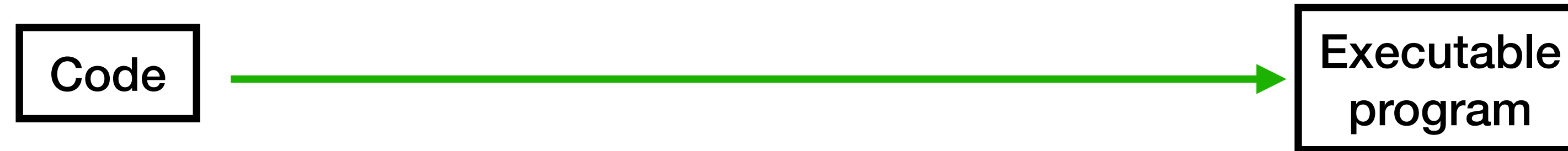


# LLVM & Industry

# What is a compiler

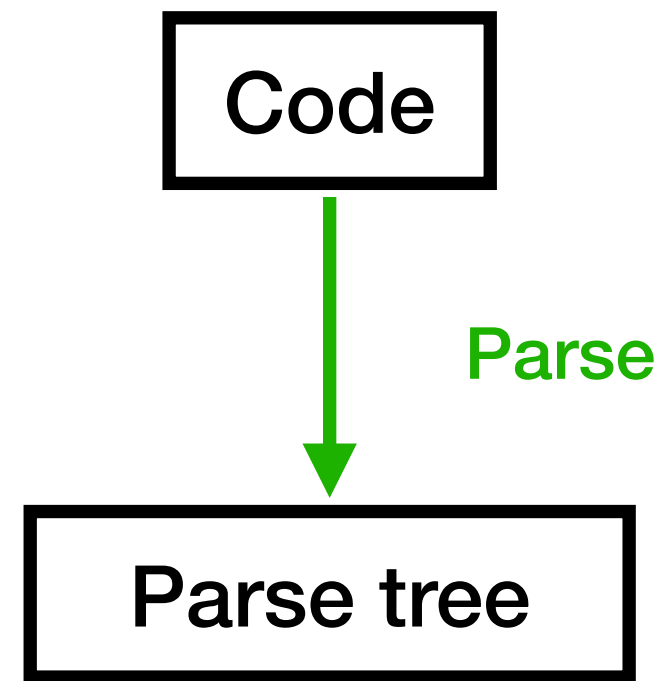
# What is a compiler



# What is a compiler



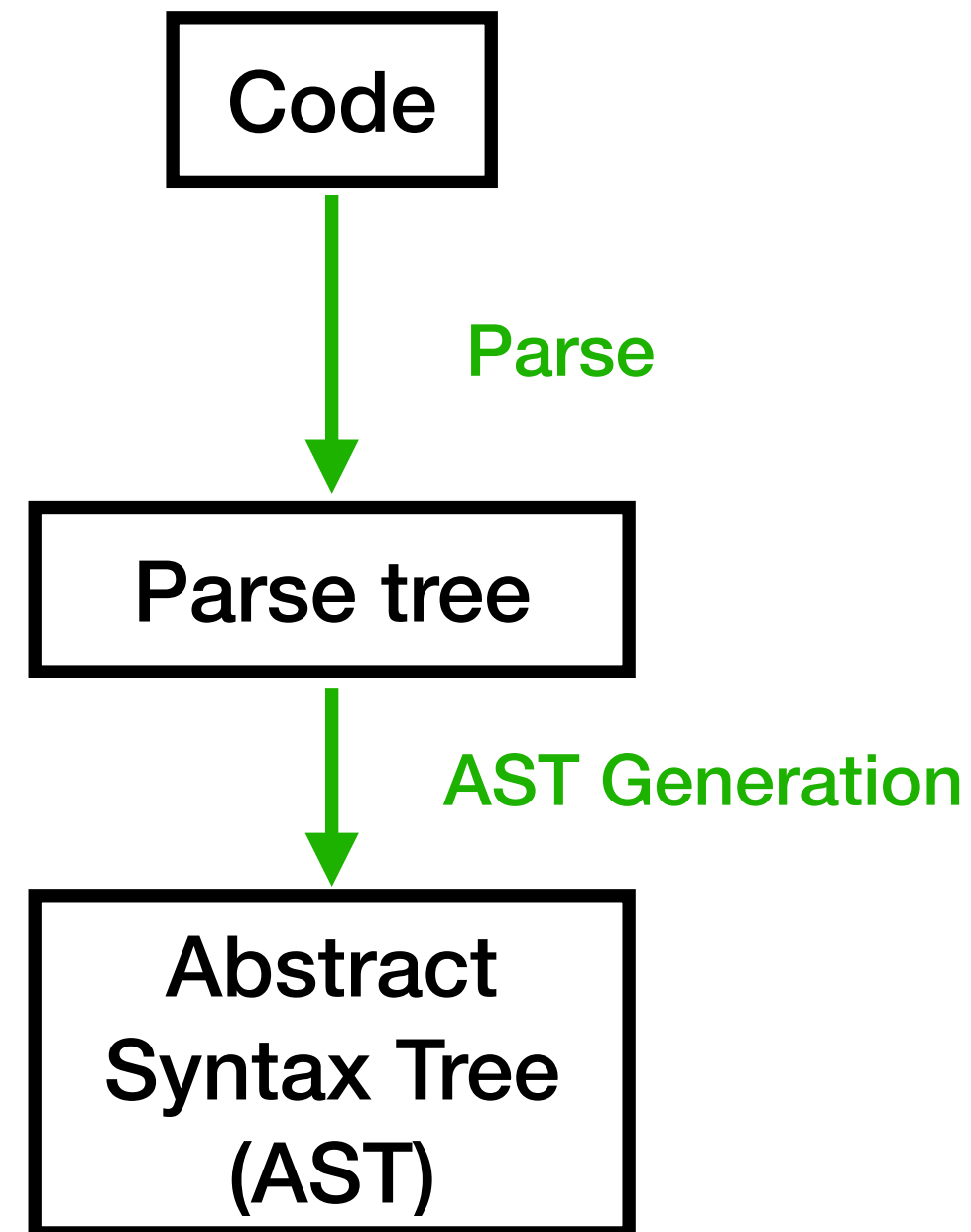
# What is a compiler



Behavior-preserving  
transformation



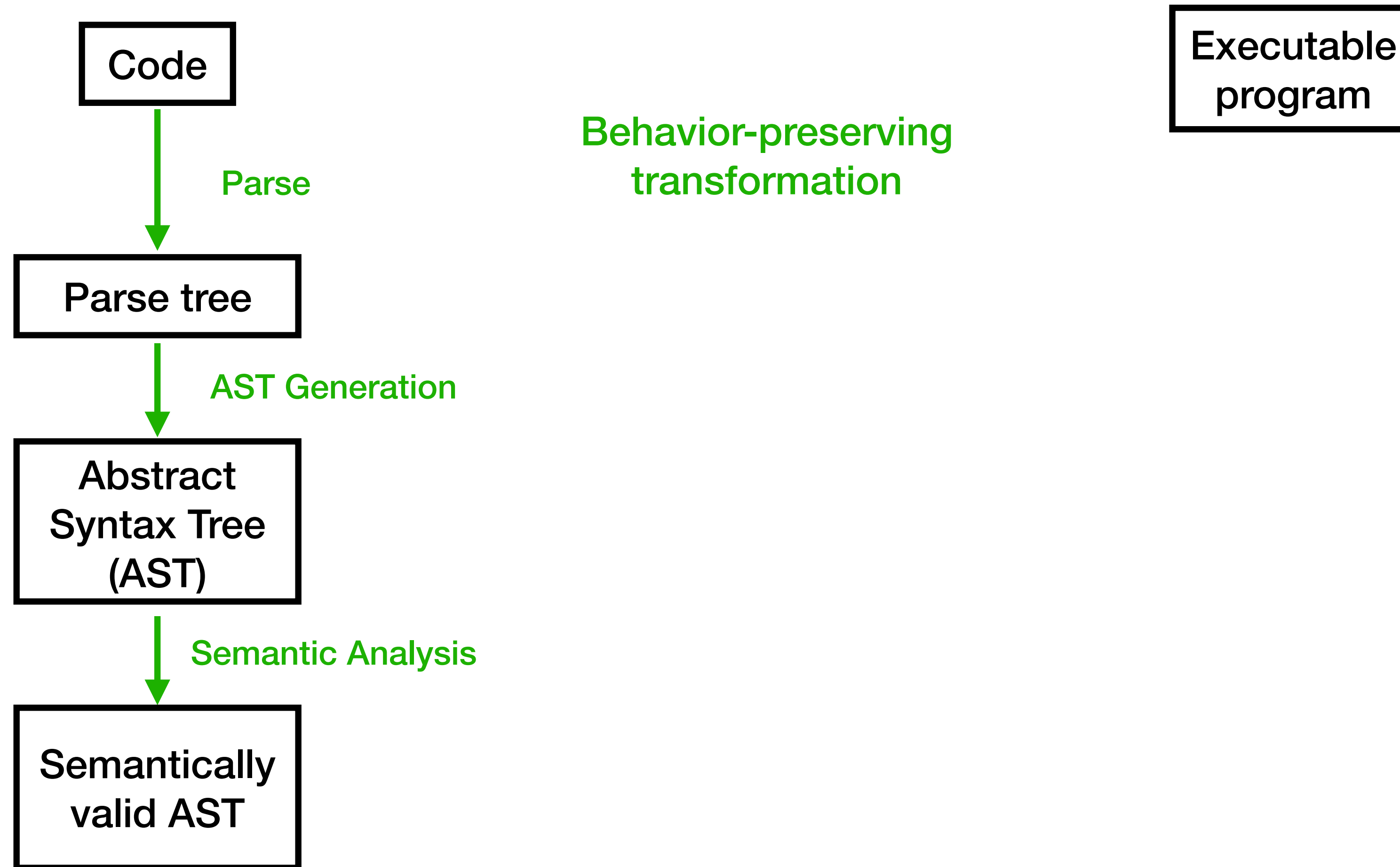
# What is a compiler



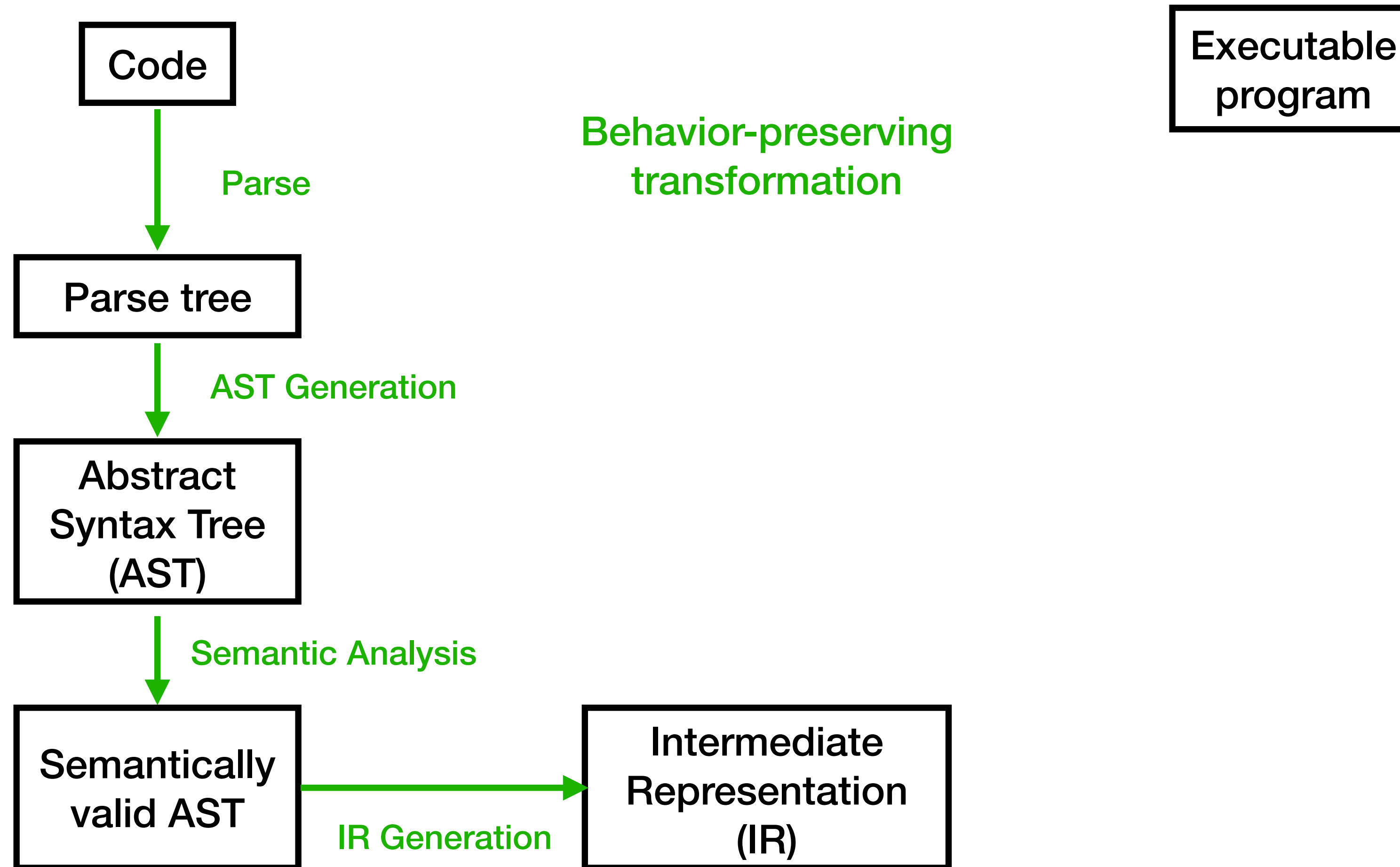
Behavior-preserving  
transformation

Executable  
program

# What is a compiler

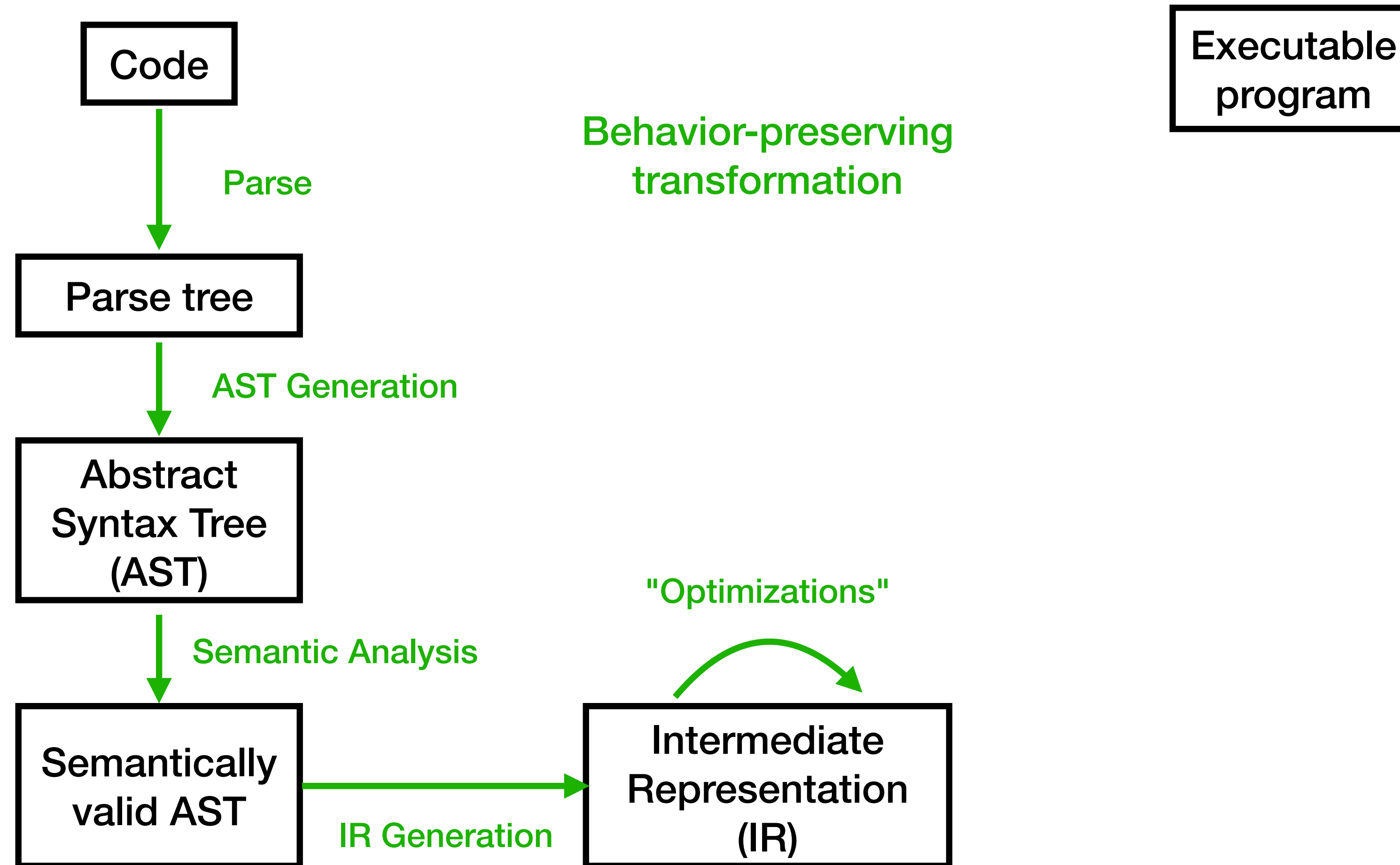


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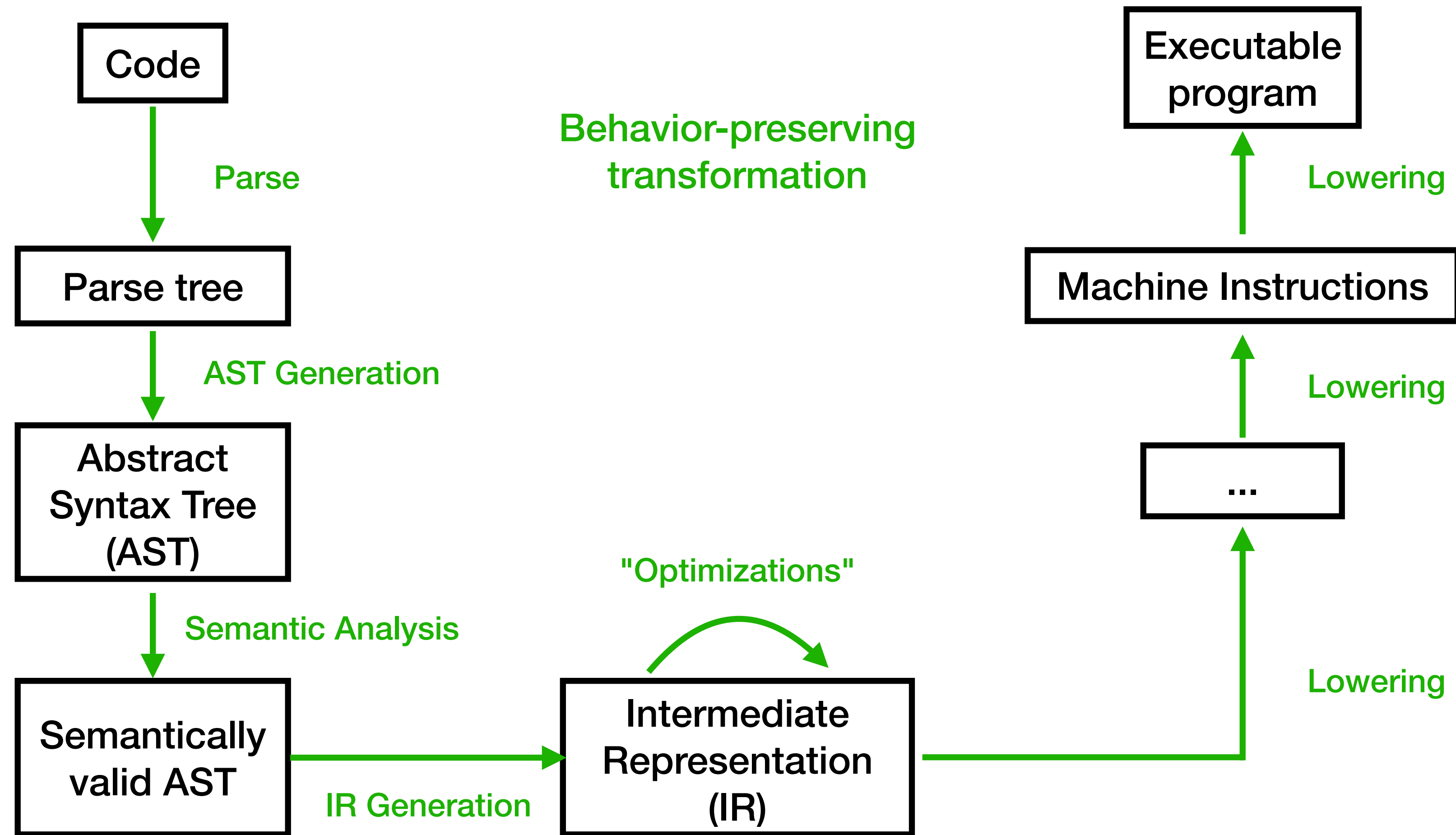




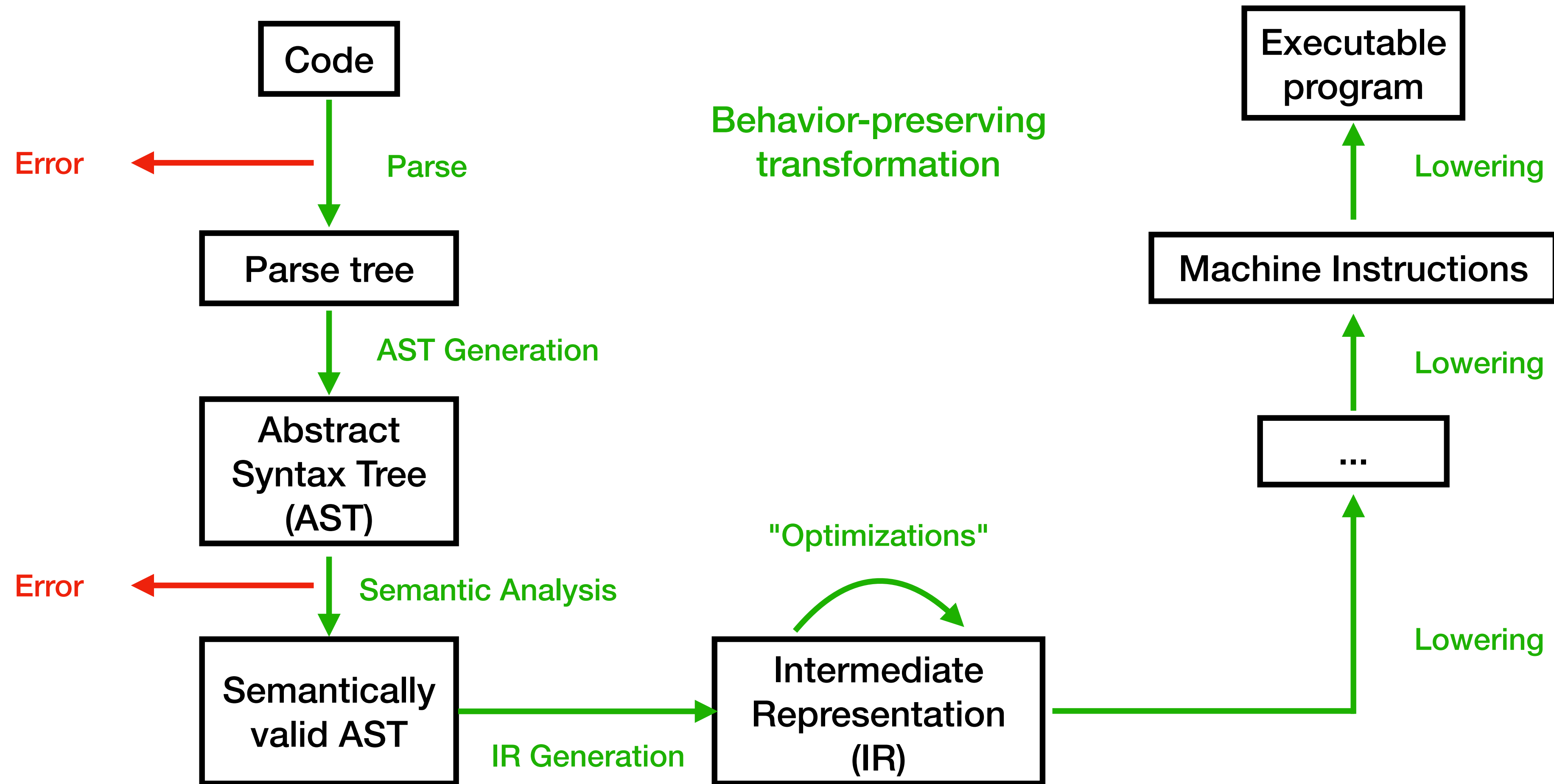
# What is a compiler



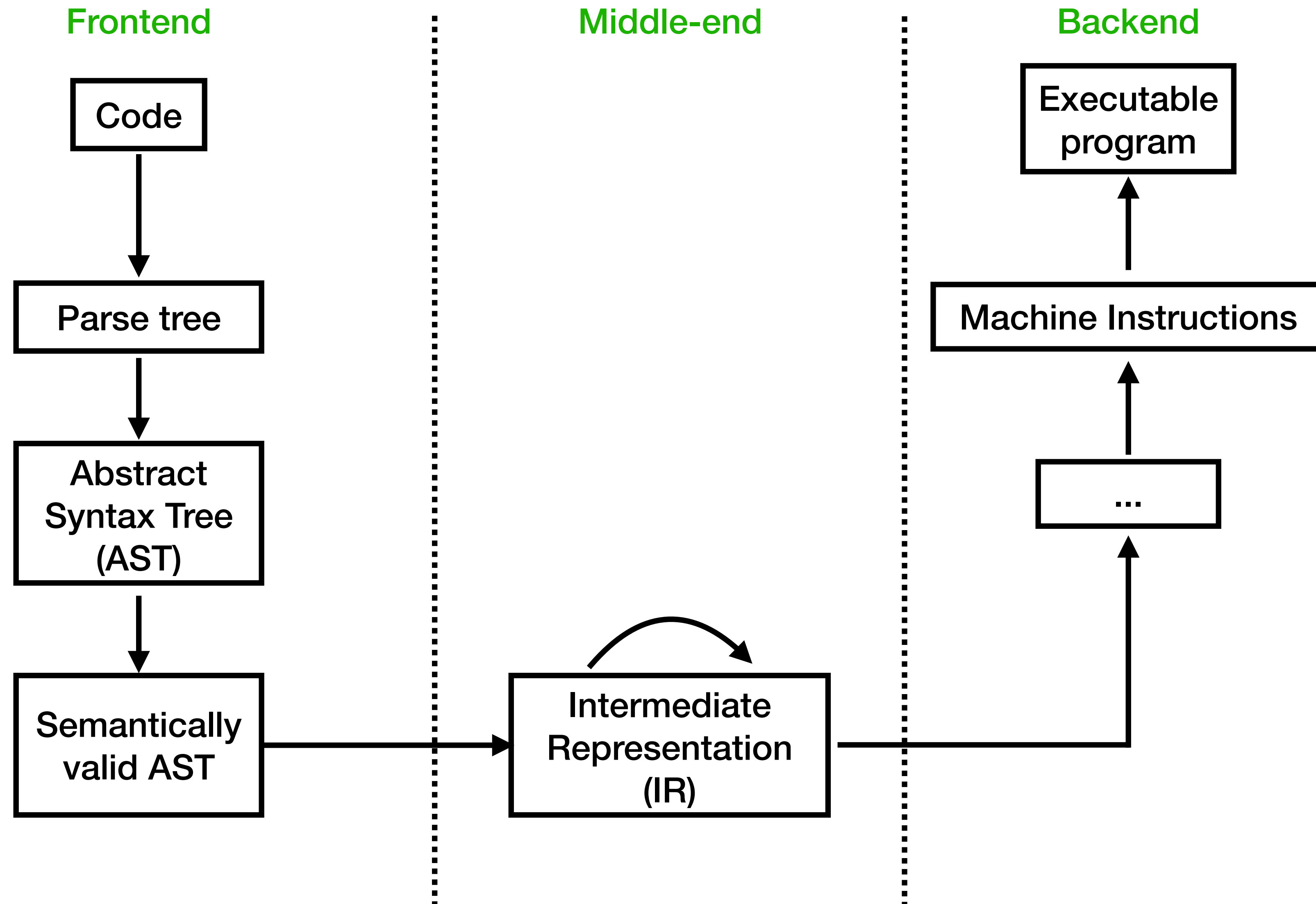
# What is a compiler



# What is a compiler



# What is a compiler



# LLVM



# LLVM



- Created in 2000 by Chris Lattner

# LLVM



- Created in 2000 by Chris Lattner
- Very permissive license

# LLVM



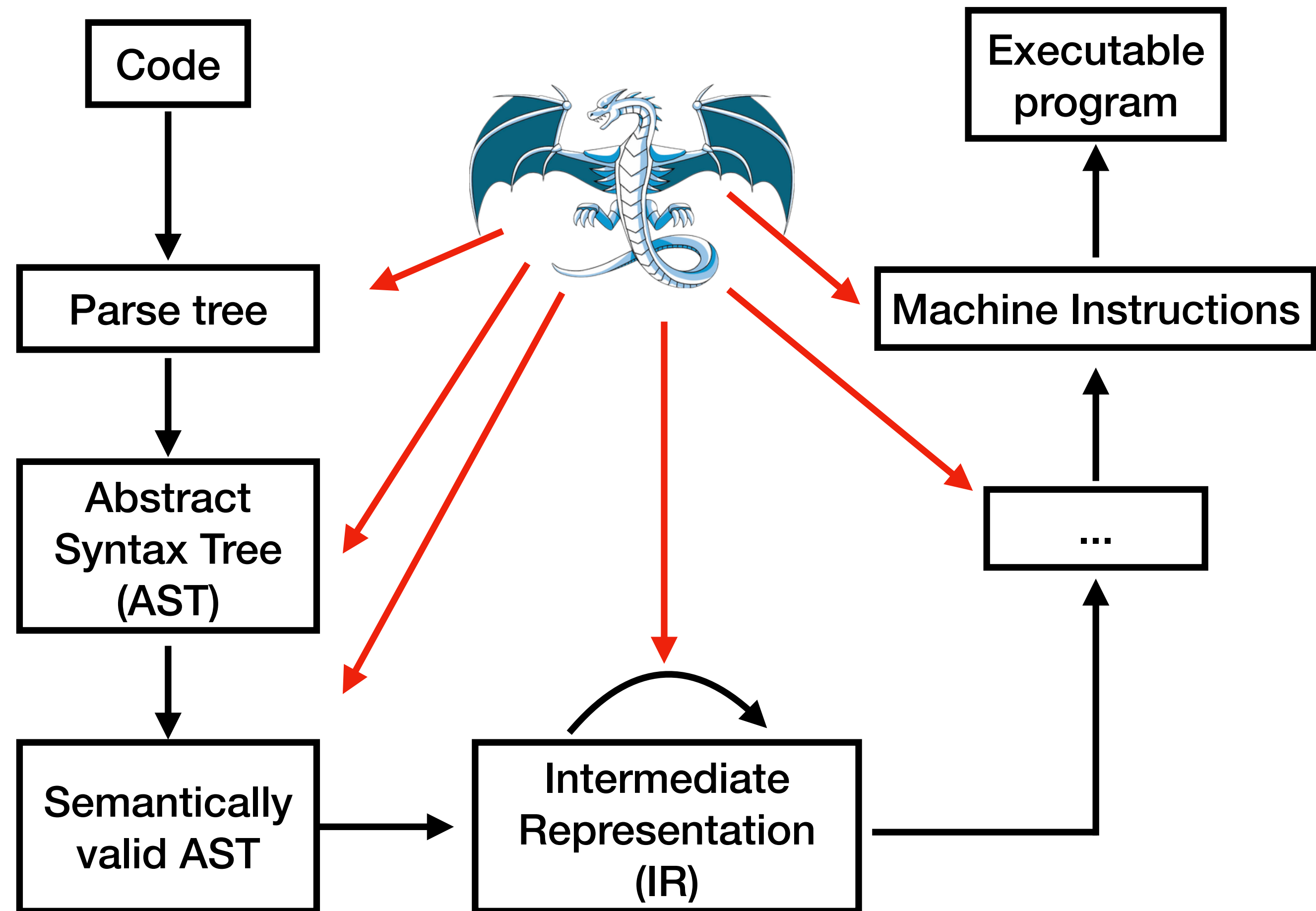
- Created in 2000 by Chris Lattner
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- Compiler as a collection of reusable C++ libraries




# LLVM



- Created in 2000 by Chris Lattner
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- Compiler as a collection of **reusable C++ libraries**



 alexey-bataev

[SLP]Track repeated reduced value as it might b...

4b5018d · 25 minutes ago

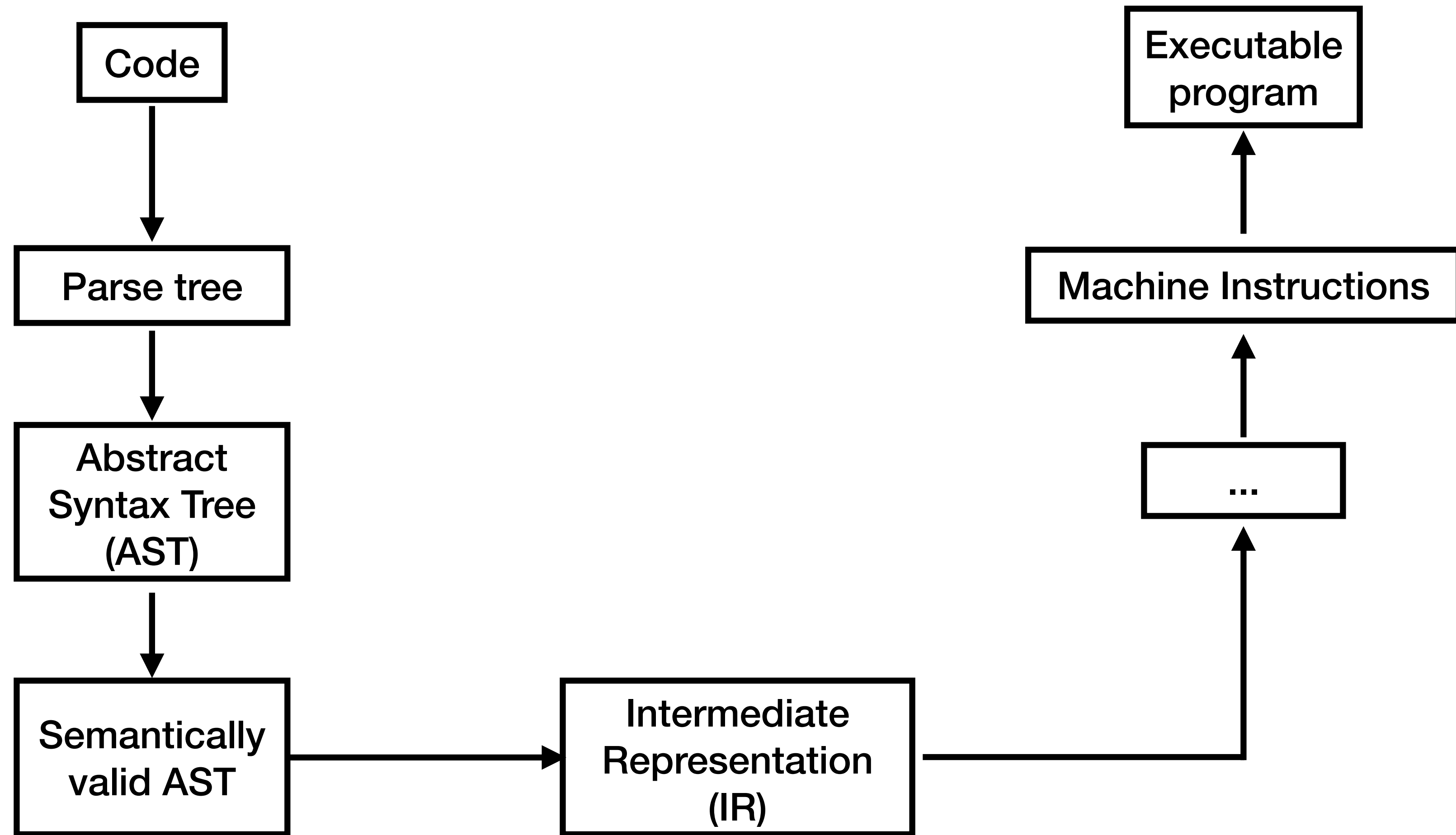
514,687 Commits

The LLVM Project is a collection of modular and reusable compiler and toolchain technologies.

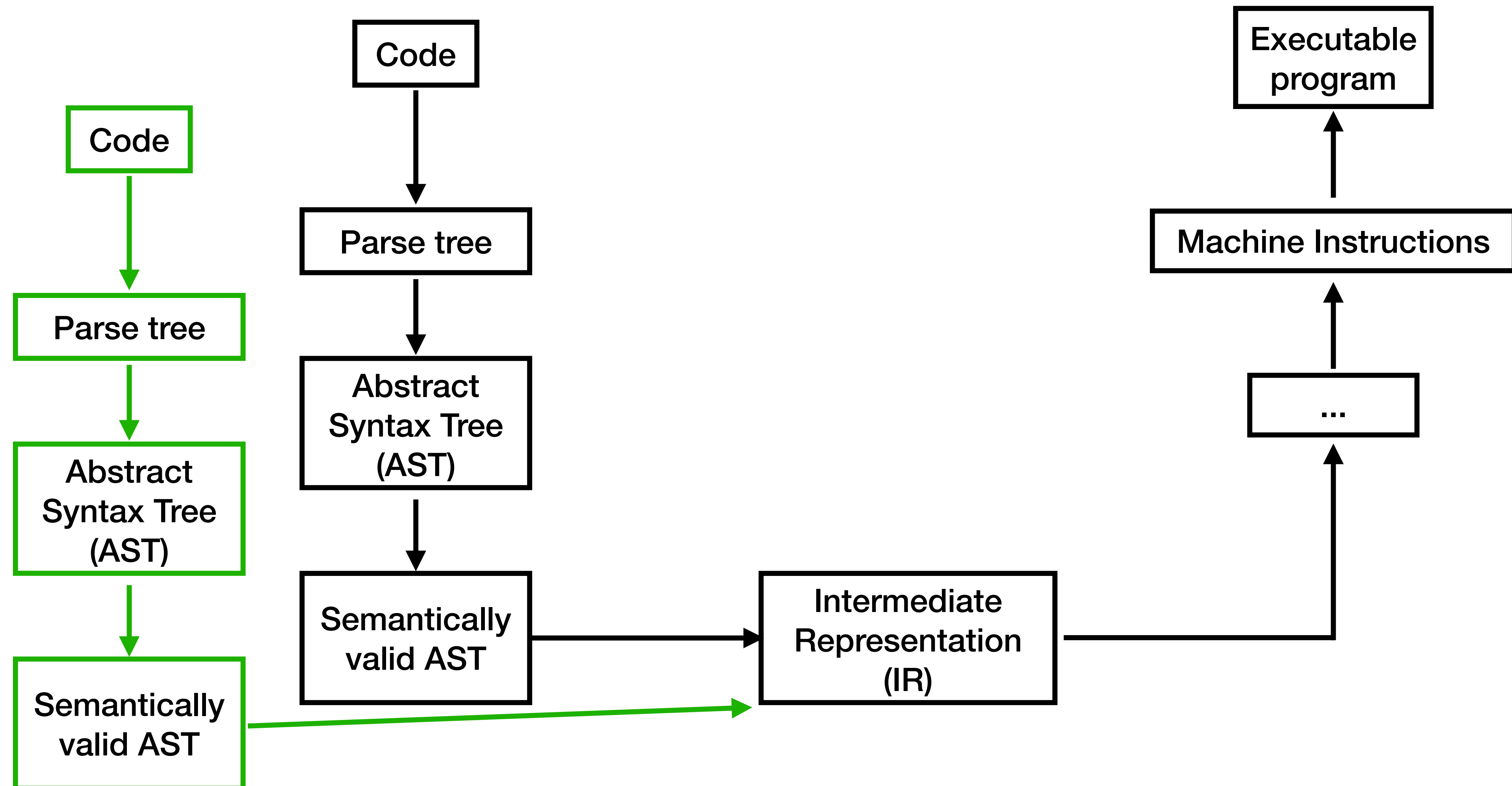
.ci	[ci] Don't add check-all target when pstl project is ena...
.github	[flang][driver] Add support for clang-tidy
bolt	[BOLT] Add support for clang-tidy
clang-tools-extra	[clang-tidy] Add support for clang-tidy
clang	Switch Directory to clang-tidy
cmake	[CMake] Add support for clang-tidy
compiler-rt	[NFC][sanitizer] Add support for clang-tidy
cross-project-tests	[Dexter] Add support for clang-tidy
flang	[flang] Add support for clang-tidy
libc	[libc] Add support for clang-tidy
libclc	[libclc] Add support for clang-tidy
libcxx	[lldb][libc++] Add support for clang-tidy

libcxxabi	[runtimes][NFC] Reindent CMake files (#111821)	3 hours ago
libunwind	[runtimes][NFC] Reindent CMake files (#111821)	3 hours ago
lld	[lld-macho] Fix ICF differentiation of safe_thunks reloc...	5 hours ago
lldb	[lldb] SetErrorStringWithFormatv -> FromErrorStringWi...	44 minutes ago
llvm-libgcc	[runtimes] Correctly apply libdir subdir for multilib (#9...	5 months ago
llvm	[SLP]Track repeated reduced value as it might be vect...	25 minutes ago
mlir	Fix GCC build problem with 0348373	3 hours ago
offload	[flang][driver] rename flang-new to flang (#110023)	12 hours ago
openmp	[flang][driver] rename flang-new to flang (#110023)	12 hours ago
polly	[IRBuilder] Remove uses of CreateGlobalStringPtr() (NF...	2 weeks ago
pstl	Clear release notes for upcoming LLVM 20 dev cycle	3 months ago
runtimes	[libc++] Activate -Warray-zero when building (#110812)	last week

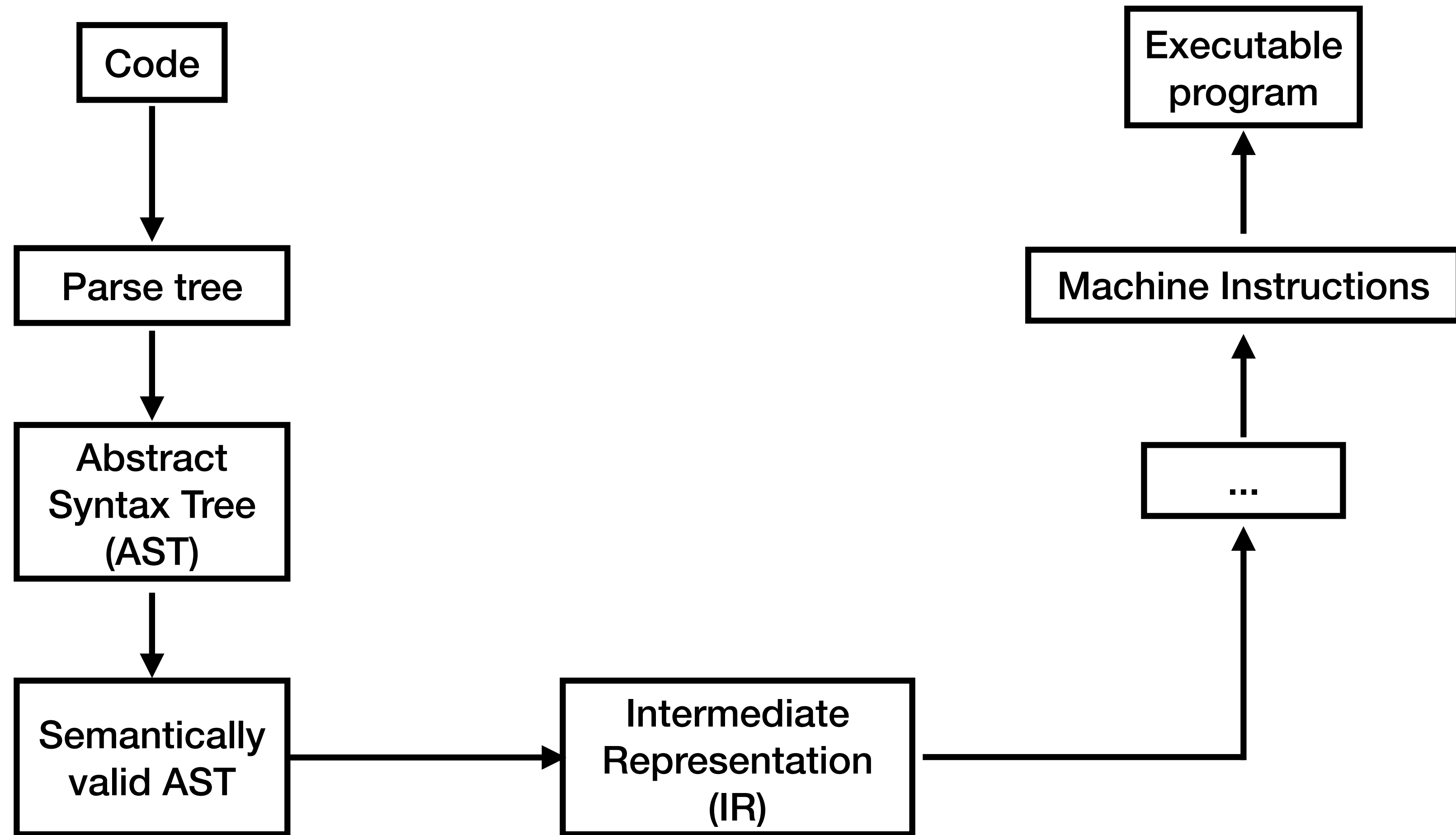
# Adding a new language



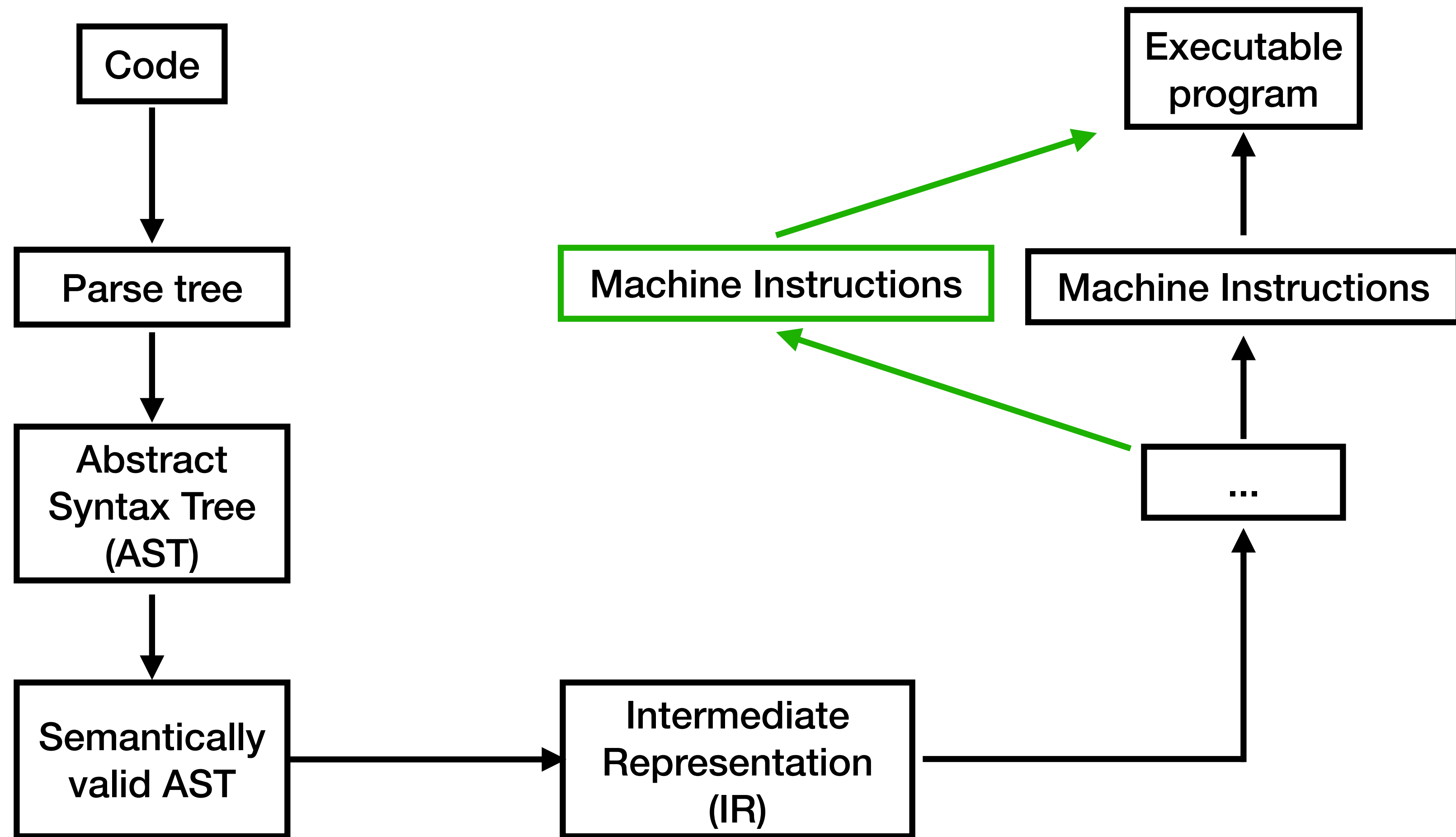
# Adding a new language



# Adding a new target



# Adding a new target



# The perfect storm



**LLVM**

# The perfect storm

GCC code is arcane





# The perfect storm

GCC code is arcane

GNU updated its  
license



# The perfect storm

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GNU updated its  
license

Companies all had  
their own compiler =>  
slow/expensive



# The perfect storm

GCC code is arcane

Explosion of  
architectures:  
GPGPUs, TPUs,  
custom AI hardware

GNU updated its  
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**LLVM**

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Domain-specific  
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Lots of new modern  
Programming  
Languages

# LLVM & Industry

All major companies adopt **and contribute publicly** to LLVM.

