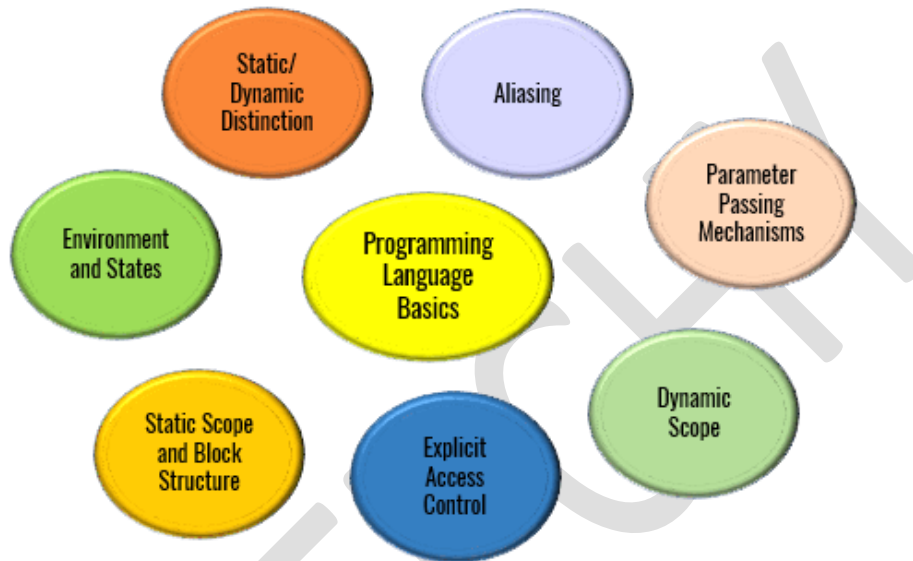


Programming Language Basics in Compiler Design

- To design an efficient compiler, we should know some language basics.



Static and Dynamic Distinction

- Static - Events occur at compile time.
- Dynamic - Events occur at run time.

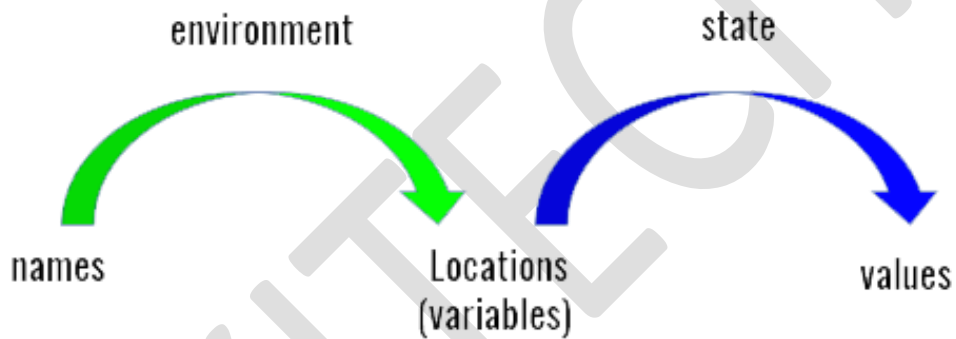
Example

- The scope of a declaration of x is the region of the program in which uses of x refer to this declaration.
- A language uses static scope or lexical scope if it is possible to determine the scope of a declaration by looking only at the program.
- Otherwise, the language uses dynamic scope. With dynamic scope, as the

program runs, the same use of x could refer to any of several different declarations of x.

Environment and States

- The environment is mapping from names to locations in the store. Since variables refer to locations, we could alternatively define an environment as a mapping from names to variables.
- The state is a mapping from locations in store to their values.



For More Details Click Here:

<https://www.wikitechy.com/tutorials/compiler-design/programming-language-basics-in-compiler-design>

