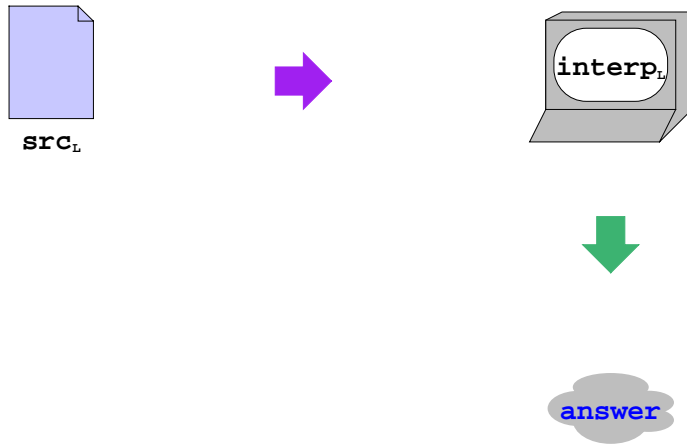
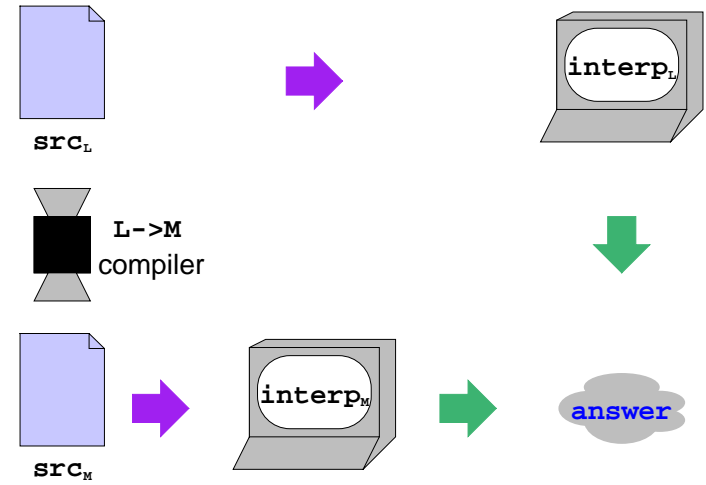


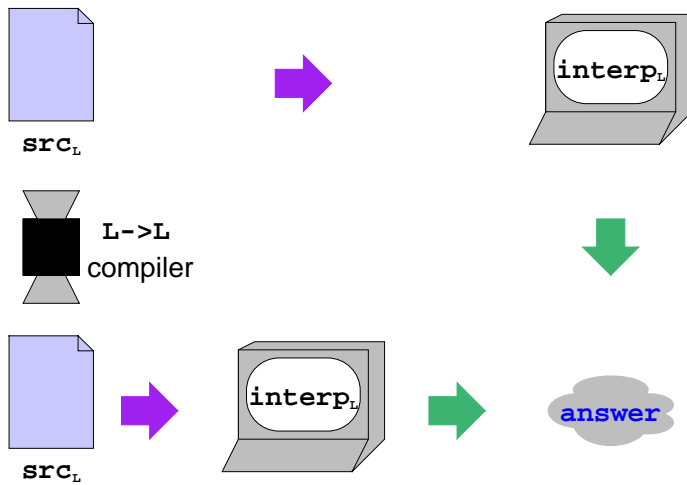
Interpreter



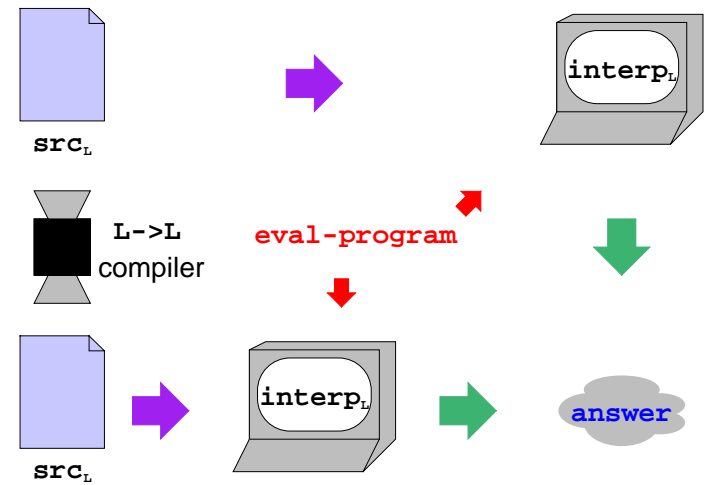
Compiler



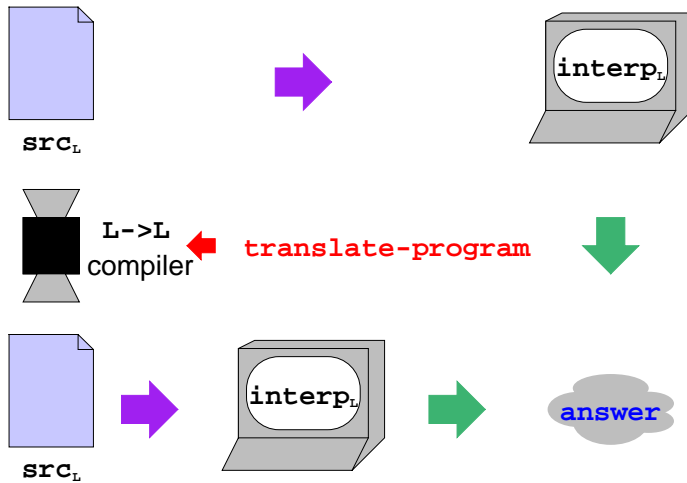
Our Compiler



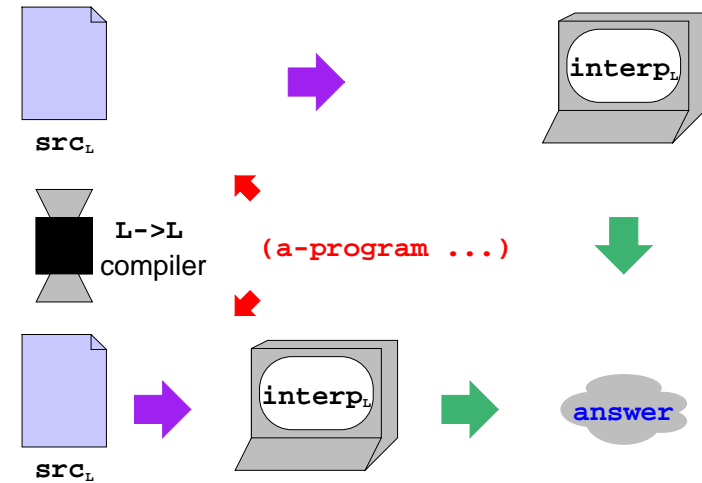
Our Compiler



Our Compiler



Our Compiler



Compiler: Lecture Example

- Start with simply typed `proc` language
- Write `translate-expr` that traverses the program, but makes no changes
- Add expression forms for cheaper operations
- Change `translate-expr` to replace expensive operations with cheaper ones
 - Lexical addresses

Compiler: HW11

- Given initial `translate-expr` that implements some object transformations
 - Replace method name with index in `send`
 - Remove obvious `cast` and `instanceof`
- Your task: add other compiler transformations
 - Lexical addresses
 - Pre-compute field array size for `new`
 - Pre-compute `initialize` index for `new`
 - ...