

# AST

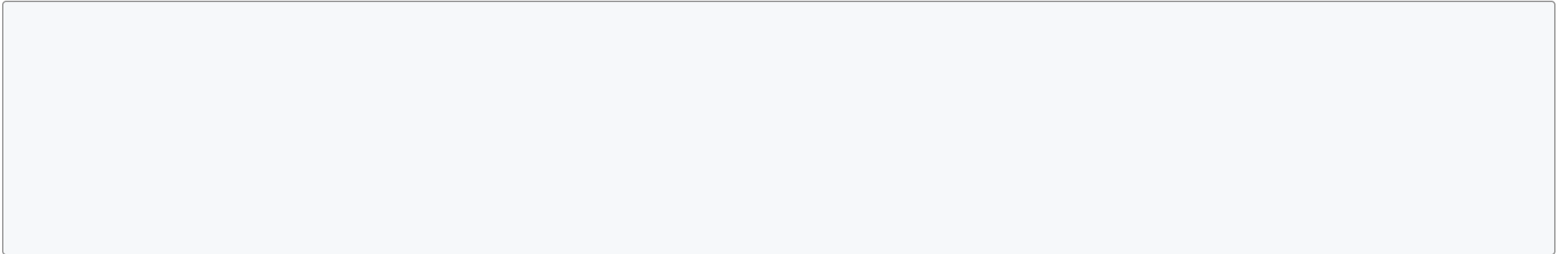
Abstract syntax tree (AST), or just syntax tree, is a tree representation of the abstract syntactic structure of source code written in a programming language.

# Terms

- Formal
- Actual
- Attribute
- Dispatch
  - Static
  - Dynamic

## Example of AST (#1)

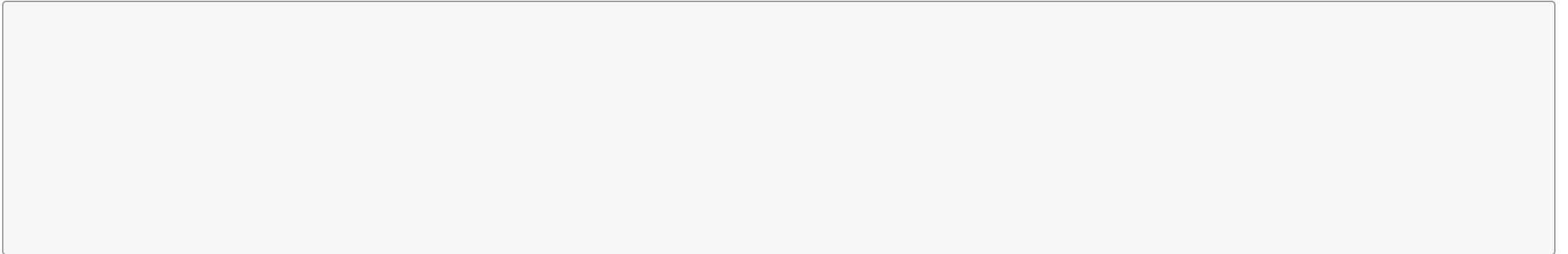
- Given the following expression:



- The output AST would be:

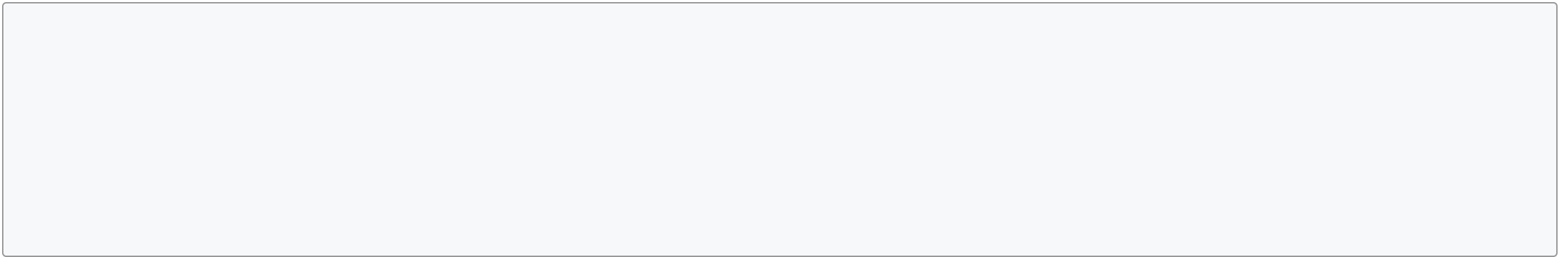
## Example of AST (#2)

- Given the following expression:



**Example of AST (#2) Cont.**

The output AST would be:

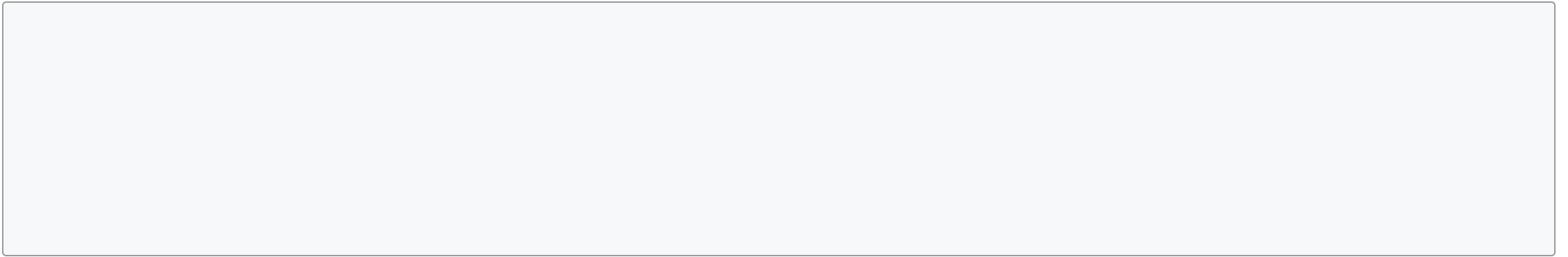


# Lab exercise

Let's try to construct the AST for the following cool program



# Solution



# Lab assignment

Follow "Cool Tour" to construct "Queens.cool" given it's AST. Basically reverse engineer the cool program from its AST.