Language: arbitrary association of a collection of forms w/ their meanings
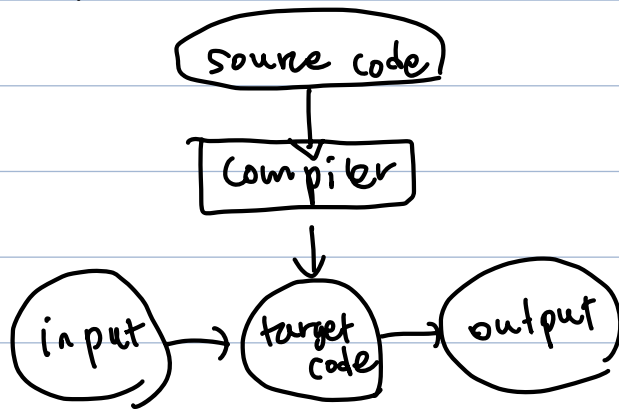
   syntax: specification of the forms

   semantics: specification of the meanings.
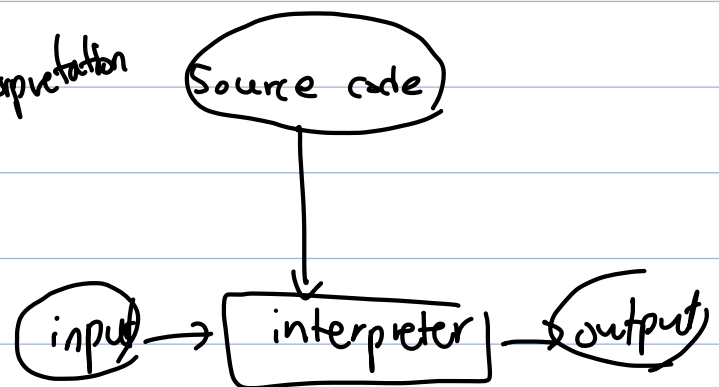
behaviour or sequence of instruction

Donald Knuth: treat program as a piece of literature, addressed to human beings

  rather than to a computer.

Compilation

```
      source code
          |
          v
      Compiler
          |
          v
input → target → output
        code
```

Interpretation

```
         Source code
              |
              v
input → interpreter → output
```

hybrid

       source code

        compiler

       intermediary

       interpreter   output

input

Just in Time (JIT)

• run-time monitoring.

if 2 * x + 3 > y   then   print(x)   else   print(y)

root