Lecture topics
I Scopes and definitions
II Scope analyser
III Types and their relations
IV Type analyser

Big picture
AST
Scope analyzer
Symbol table
Type analyzer

Scope analyzer

Symbol table:

Translation scheme:

Lexical scoping example:

See also: Dragon book Figure 2.38 (page 30)
III. Types and their relations

Tack: Subtype hierarchy

Example:

```plaintext
a = (x=1, y="two");
b = (x=3);
b := a;  // subtype
a := b : (x:int, y:string);  // cast
print ("3");
print (3 : String);  // cast
print ("" + 3);  // coercion
```

IV. Type analyzer

Translation scheme:

- B → E
- L → SL1E
- S → B1DU
- D → id = E;
- U → id;

Example Java implementation:

see pr3.pdf, last page

Reminders:

- pr 2 due Fr 10/28
- hw 6 due Fr 11/4