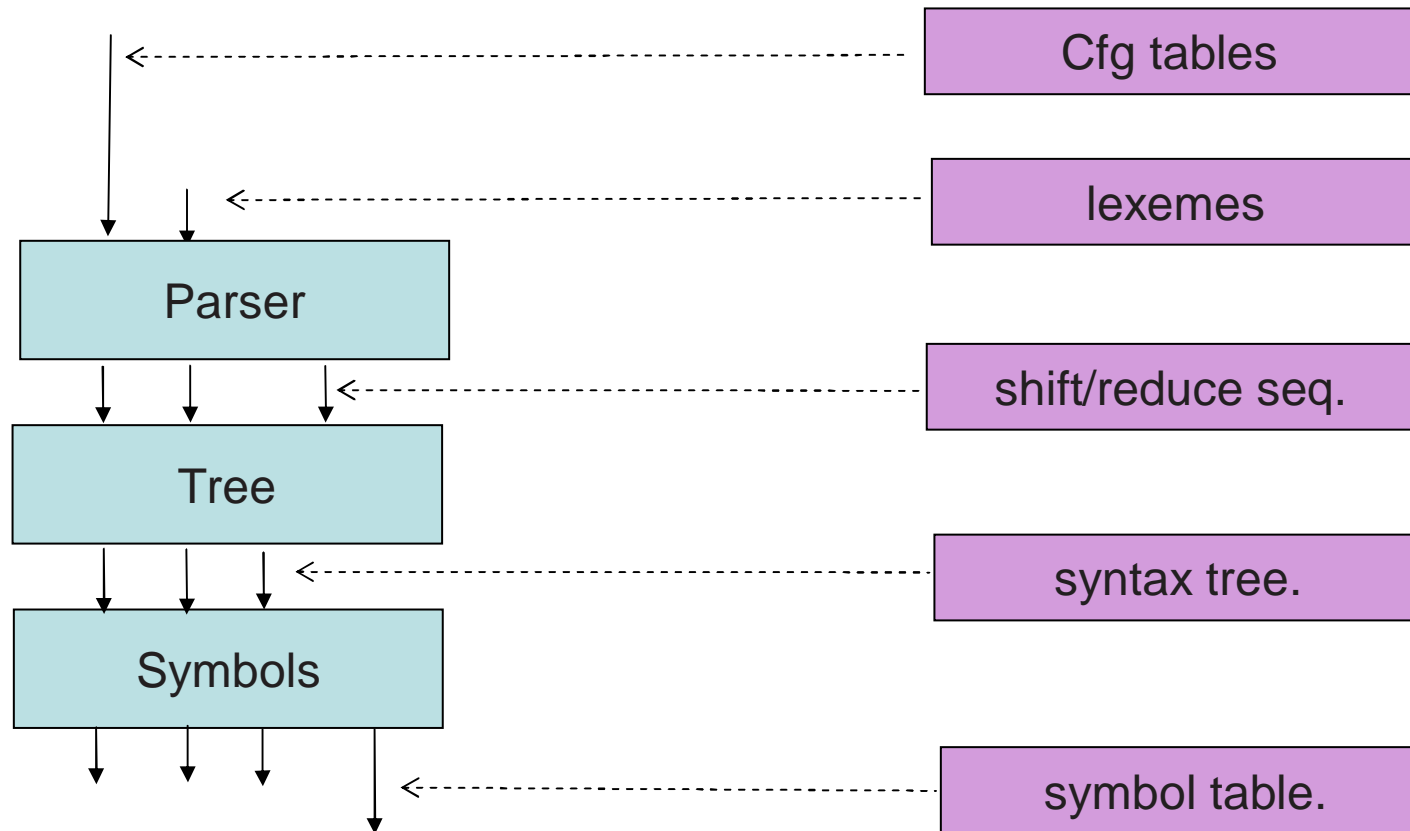


MathWorks Compiler Course – Day 5

- Syntax Trees

MathWorks Compiler Course – Day 5

- Syntax Trees



MathWorks Compiler Course – Day 5

- Syntax Trees
 - Construction

MathWorks Compiler Course – Day 5

- Syntax Trees
 - Construction
 - Stack shifted tokens
 - Pop stack to build reduce nodes

MathWorks Compiler Course – Day 5

- Syntax Trees
 - Construction
 - Walking

MathWorks Compiler Course – Day 5

- Syntax Trees
 - Construction
 - Walking
 - Inherited attributes
 - Passed by parameter to getNode

MathWorks Compiler Course – Day 5

- Syntax Trees
 - Construction
 - Walking
 - Inherited attributes
 - Passed by parameter to walker methods
 - Synthesized attributes
 - Returned values from walker methods

MathWorks Compiler Course – Day 5

- Syntax Trees
 - Construction
 - Walking
 - Tree Transformations

MathWorks Compiler Course – Day 5

- Syntax Trees
 - Construction
 - Walking
 - Tree Transformations
 - Abstract Syntax Trees

MathWorks Compiler Course – Day 5

- Syntax Trees
 - Construction
 - Walking
 - Tree Transformations
 - Abstract Syntax Trees
 - Chain shortening
 - Leaf node elimination
 - Parenthesis elimination

MathWorks Compiler Course – Day 5

- Syntax Trees
 - Construction
 - Walking
 - Tree Transformations
 - Abstract Syntax Trees
 - Decorations

MathWorks Compiler Course – Day 5

- Syntax Trees
 - Construction
 - Walking
 - Tree Transformations
 - Abstract Syntax Trees
 - Decorations
 - Attributes
 - Symbol Table Index

MathWorks Compiler Course – Day 5

- Syntax Trees
 - Construction
 - Walking
 - Tree Transformations
 - Abstract Syntax Trees
 - Decorations
 - Optimization

MathWorks Compiler Course – Day 5

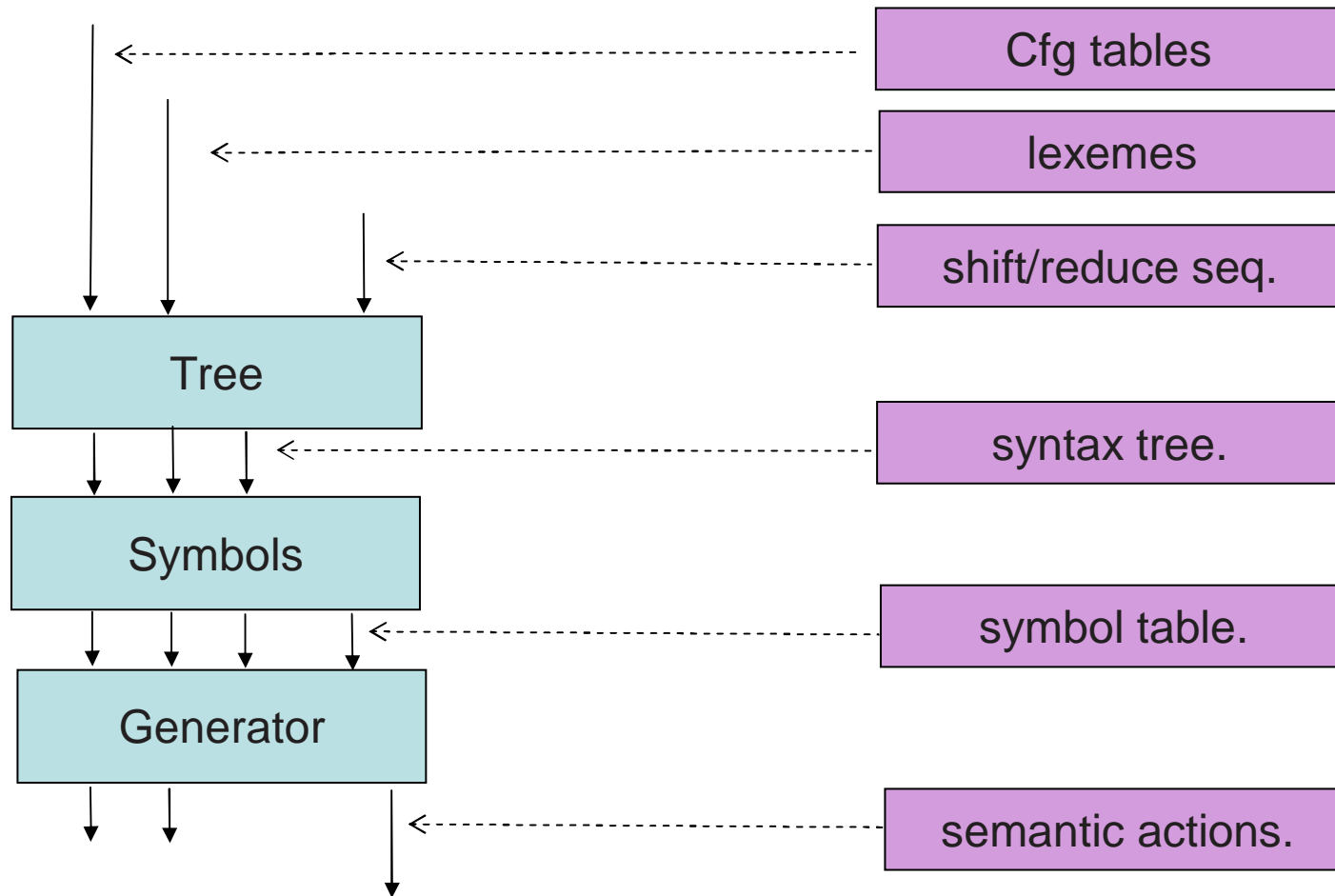
- Syntax Trees
 - Construction
 - Walking
 - Tree Transformations
 - Abstract Syntax Trees
 - Decorations
 - Optimizations
 - Constant evaluation
 - Code motion

MathWorks Compiler Course – Day 5

- Syntax Trees
- Symbol Tables

MathWorks Compiler Course – Day 5

- Symbol Table



MathWorks Compiler Course – Day 5

- Symbol Table
 - Frames
 - Symbol frame
 - Runtime frame

MathWorks Compiler Course – Day 5

- Symbol Table
 - Frames
 - Symbol frame
 - Runtime frame
 - temporary variables

MathWorks Compiler Course – Day 5

- Symbol Table
 - Frames
 - Scope
 - not in xcom

MathWorks Compiler Course – Day 5

- Symbol Table
 - Frames
 - Scope
 - Variable Attributes
 - Use
 - Left/Right

MathWorks Compiler Course – Day 5

- Symbol Table
 - Frames
 - Scope
 - Variable Attributes
 - Use
 - Type constraints
 - *All* -- logical | integer | real (nothing excluded)
 - *Arithmetic* -- integer | real
 - *None* -- 0 (nothing allowed)

MathWorks Compiler Course – Day 5

- Symbol Table
 - Frames
 - Scope
 - Variable Attributes
 - Look-up
 - Linear
 - Hash

MathWorks Compiler Course – Day 5

- Symbol Table
 - Frames
 - Scope
 - Variable Attributes
 - Look-up
 - Inference
 - passes