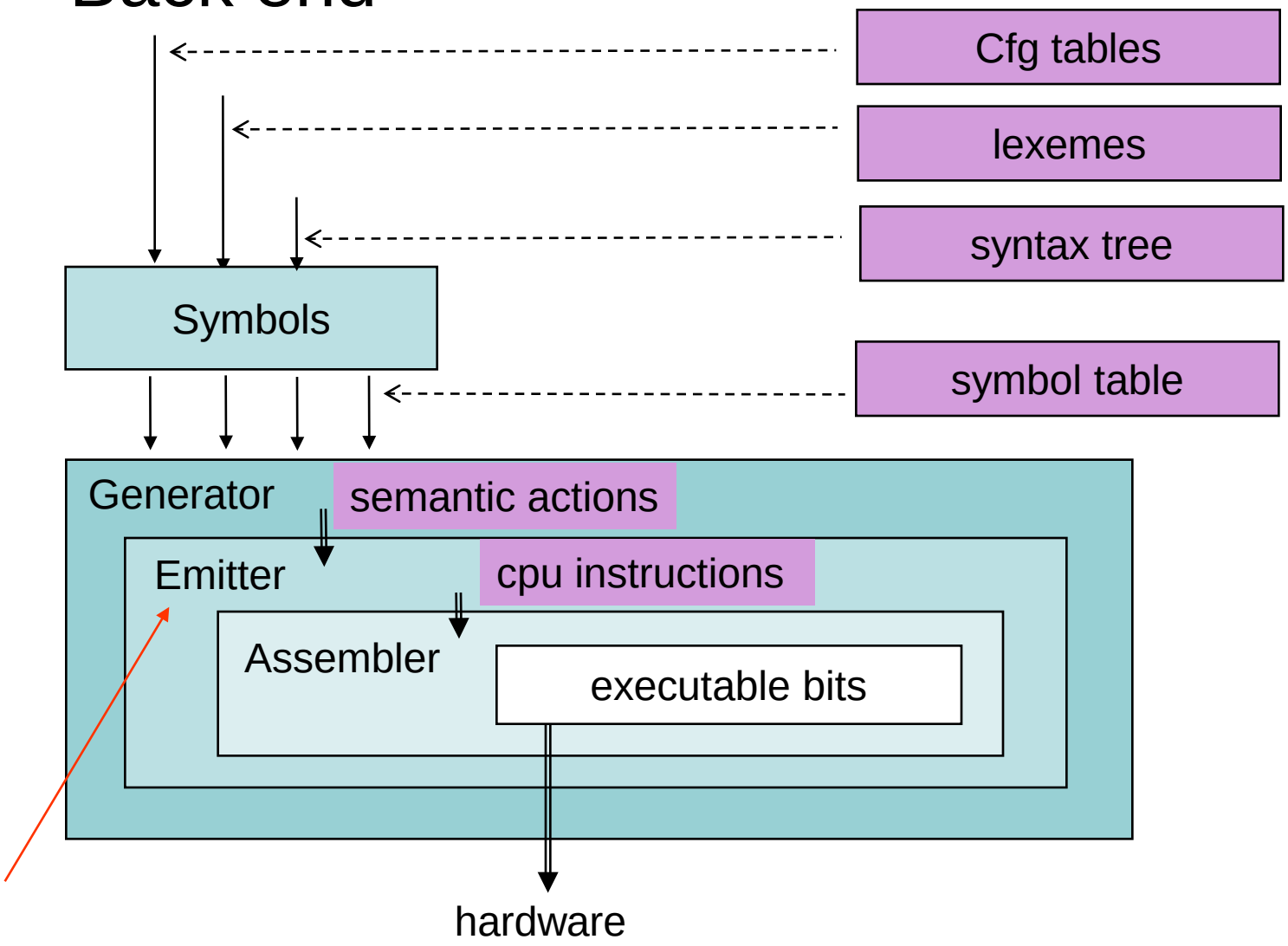
MathWorks Compiler Course – Day 7

- Back end



MathWorks Compiler Course – Day 7

- Emitter
  - Expression Actions
    - var(tok)
    - expr0(rule, tok)
    - expr1(rule, opd)
    - expr2(rule, left, right)

MathWorks Compiler Course – Day 7

- Emitter
  - Expression Actions
    - var(tok)
    - expr0(rule, tok)
    - expr1(rule, opd)
    - expr2(rule, left, right)
    - arithAbort(rule, tok)
  - Assignment Actions
    - store
    - call

MathWorks Compiler Course – Day 7

- Emitter
  - Expression Actions
  - Assignment Actions
  - Control Actions
    - guard end
    - alt end
    - if-fi end
    - if-fi abort
    - do-od begin
    - do-od end

MathWorks Compiler Course – Day 7

- Emitter
  - Expression Actions
  - Assignment Actions
  - Control Actions
  - Linkage
    - prolog/epilog

MathWorks Compiler Course – Day 7

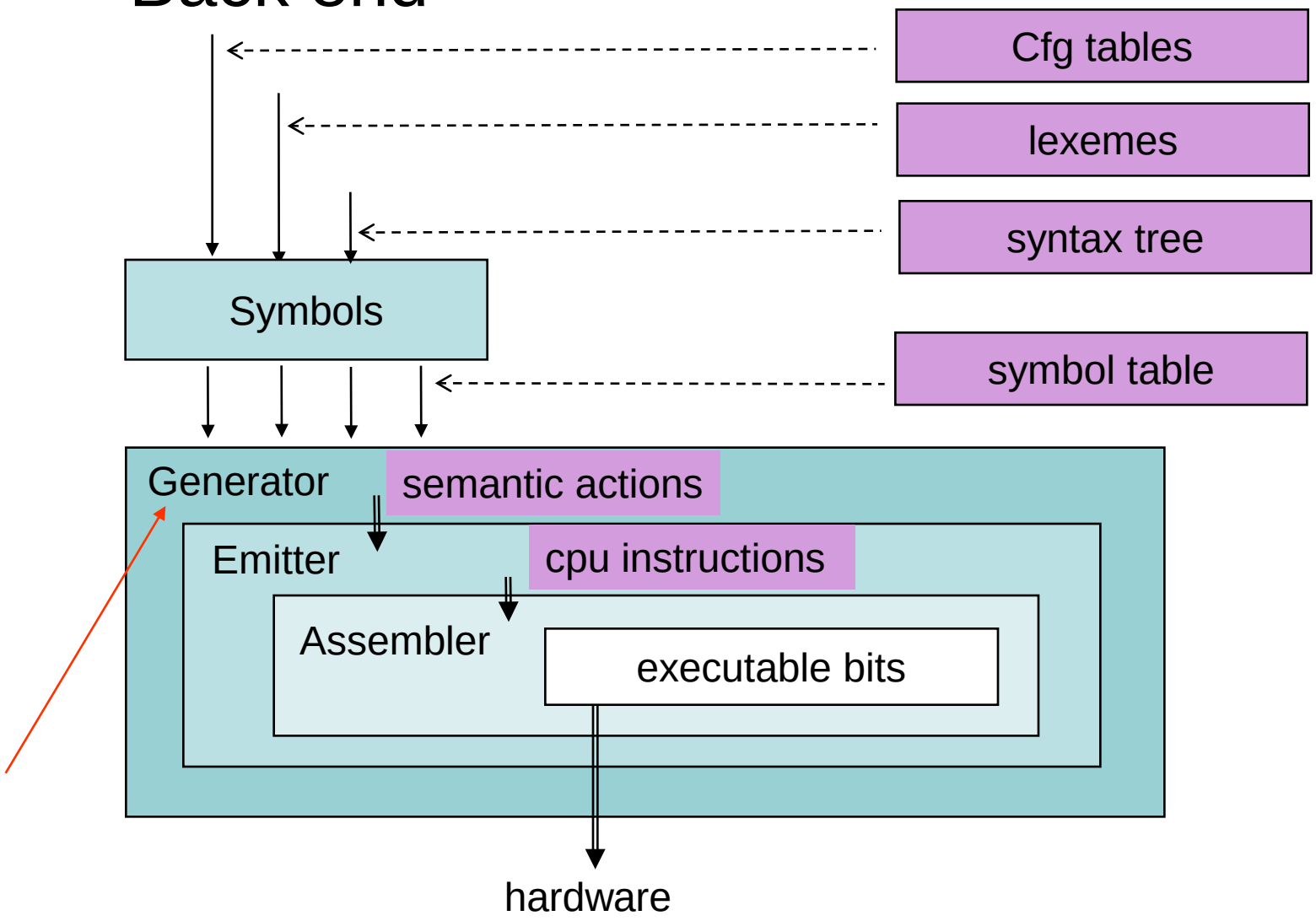
- Emitter
  - Expression Actions
  - Assignment Actions
  - Control Actions
  - Linkage
  - Operands
    - Tags A L S M X R D F

MathWorks Compiler Course – Day 7

- Emitter
  - Expression Actions
  - Assignment Actions
  - Control Actions
  - Linkage
  - Operands
  - Run Errors
    - precompute message
    - remember number
    - bailout

MathWorks Compiler Course – Day 7

- Back end



MathWorks Compiler Course – Day 7

- Generator
  - genWalk()
    - stmtWalk(n)
      - stmtWalk(n) (*recursive*)
      - selectionWalk(n)
        - » altsWalk(n)
      - iterationWalk(n)
        - » altsWalk(n)
      - assignWalk(n)
      - callWalk(n)
      - exprWalk(n) (*guard*)

MathWorks Compiler Course – Day 7

- Generator
  - altsWalk(n)
    - altsWalk(n) (*recursive*)
    - altWalk(n)
      - exprWalk(n)
      - stmtWalk(n)

MathWorks Compiler Course – Day 7

- Generator
  - assignWalk(n)
    - varsWalk(n)
      - varsWalk(n) (*recursive*)
    - exprsWalk(n)
  - callWalk(n)
    - varsWalk(n)
      - varsWalk(n) (*recursive*)
    - exprsWalk(n)

MathWorks Compiler Course – Day 7

- Generator
  - exprsWalk(n)
    - exprsWalk(n) (*recursive*)
    - exprWalk(n)
      - exprWalk(n) (recursive)

MathWorks Compiler Course – Day 7

- Generator
  - assignWalk(n)
    - varsWalk(n)
      - varsWalk(n) (*recursive*)
    - exprsWalk(n)
  - callWalk(n)
    - varsWalk(n)
      - varsWalk(n) (*recursive*)
    - exprsWalk(n)

MathWorks Compiler Course – Day 7

- Generator
  - exprsWalk(n)
    - exprsWalk(n) (*recursive*)
    - exprWalk(n)
      - exprWalk(n) (recursive)