

# CS 365 — Programming Language Concepts

Representing syntax

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# Mathex

*Expression* → *Term* { *AddOp* *Term* } \*  
*Term* → *Factor* { *MulOp* *Factor* } \*  
*Factor* → INTEGER | LPAREN *Expression* RPAREN  
*AddOp* → PLUS | MINUS  
*MulOp* → STAR | SLASH

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*Expression* → *Term MoreTerms*  
*MoreTerms* →  $\epsilon$  | *AddOp Term MoreTerms*  
*Term* → *Factor MoreFactors*  
*MoreFactors* →  $\epsilon$  | *MulOp Factor MoreFactors*  
*Factor* → INTEGER | LPAREN *Expression* RPAREN  
*AddOp* → PLUS | MINUS  
*MulOp* → STAR | SLASH

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*Expression* → *Term* { *ExpressionFragment* } \*

*ExpressionFragment* → *AddOp* *Term*

*Term* → *Factor* { *TermFragment* } \*

*TermFragment* → *MulOp* *Factor* *MoreFactors*

*Factor* → *IntLiteral* | *Parenthesized*

*IntLiteral* → INTEGER

*Parenthesized* → LPAREN *Expression* RPAREN

*AddOp* → PLUS | MINUS

*MulOp* → STAR | SLASH