Krishin Wadhwani

CS 320 Pt. 2 Assign 0

Problem 1

Gramma:

~~<expr> ::= int~~

<digit> ::= 0 | 1 | ... | 9

<nat> ::= ~~<digit>~~ <digit> | <digit> | <nat>

<int> ::= <nat> | -<nat>

<expr> ::= <int>
| (<expr>)
| <expr> + <expr>
| <expr> * <expr>

12 + 2 * -07 derivation rightmost:

<expr>

<expr> * <expr>

<expr> * <int>

<expr> * -<nat>

<expr> * -<digit><nat>

<expr> * -<digit><digit>

<expr> * -<digit>7

<expr> * -07

<expr> + <expr> * -07

<expr> + <nat> * -07

<expr> + <digit> * -07

<expr> + 2 * -07

<int> + 2 * -07

<nat> + 2 * -07

<digit><nat> + 2 * -07

<digit><digit> + 2 * -07

<digit>2 + 2 * -07

12 + 2 * -07

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CS320 pt. 2
HW05
problem 2

derive using leftmost derivation

& for X = -12 to 10 do { Y = 0; pass }

<Stmt>
<Stmt>
for <id> = <expr> to <expr> do <stmt>
for <letter> = <expr> to <expr> do <stmt>
for X = " " " " " " " "
for X = <int> to <expr> " " " "
for X = -<nat> to <expr> " " " "
for X = -<digit><nat> to <expr> " " "
for X = -1<nat> to <expr> " " "
for X = -1<digit> to <expr> " " "
for X = -12 to <expr> " " "
for X = -12 to <int> " " "
for X = -12 to <nat> " " "
for X = -12 to <digit><nat> " " "
for X = -12 to 1<nat> " " "
for X = -12 to 1<digit> " " "
for X = -12 to 10 do <stmt>
for X = -12 to 10 do {<stmts>}
for X = -12 to 10 do {<stmt>; <stmts>}
for X = -12 to 10 do {<id> = <expr>; <stmts>}
for X = -12 to 10 do {Y = <expr>; <stmts>}
for X = -12 to 10 do {Y = <int>; <stmts>}
for X = -12 to 10 do {Y = <nat>; <stmts>}
for X = -12 to 10 do {Y = <digit>; <stmts>}
for X = -12 to 10 do {Y = 0; <stmts>}
for X = -12 to 10 do {Y = 0; <stmt>}
for X = -12 to 10 do {Y = 0; pass}