CS 4337.502

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**Project (Part 1) Write-up**

**1. The change to the language (The Syntax)**

(1) <prog> 🡪 <stmt\_list>

(2) <stmt\_list> 🡪 e

(3) | <stmt> “;” <stmt\_list>

(4) <stmt> 🡪 <print>

(5) | <input>

(6) | <assign>

(7) | <if>

(8) | <while>

(9) | <for>

(10) <print> 🡪 “print” <p-arg>

(11) <p-arg> 🡪 S**TRING**

(12) | <expr>

(13) <input> 🡪 “get” ID

(14) <assign> 🡪 ID “=” <expr>

(15) <if> 🡪 “if” <expr> “then” <stmt\_list> “else” <stmt\_list> “end”

(16) <while> 🡪 “while” <expr> “do” <stmt\_list> “end”

(17) <for> 🡪 “for” <expr> <assign> “,” <expr> “,” <expr> <stmt\_list>

(18) <expr> 🡪 <n\_expr> <b\_expr>

(19) <b\_expr> 🡪 e

(20) | “and” <n\_expr>

(21) | “or” <n\_expr>

(22) <n\_expr> 🡪 <term> <t\_expr>

(23) <t\_expr> 🡪 e

(24) | “+” <n\_expr>

(25) | “-” <n\_expr>

(26) <term> 🡪 <factor> <f\_expr>

(27) <f\_expr> 🡪 e

(28) | “\*” <term>

(29) | “/” <term>

(30) | “%” <term>

(31) <factor> 🡪 <value> <v\_expr>

(32) <v\_expr> 🡪 e

(33) | “>” <value>

(34) | “>=” <value>

(35) | “<” <value>

(36) | “<=” <value>

(37) | “==” <value>

(38) | “!=” <value>

(39) <value> 🡪 “(” <expr> “)”

(40) | “not” <value>

(41) | “-” <value>

(42) | ID

(43) | INT

**2. The state transition diagram**

Diagram

Description automatically generated

**3. Problems encountered**