1 Introduction

For the grammar that follows, here are the types of the various elements by type font:

- **Keywords are in this type font.**
- **TOKEN CLASSES ARE IN THIS TYPE FONT.**
- **Nonterminals are in this type font.**

1.1 Some Token Definitions

letter = a | . . . | z | A | . . . | Z

digit = 0 | . . . | 9

ID = letter+

NUM = digit+

Also note that white space is ignored except that it must separate ID’s, NUM’s, and keywords.

2 The Grammar

1. program → stmt-seq

2. stmt-seq → stmt-seq ; stmt

3. stmt → if-stmt | repeat-stmt | assign-stmt | read-stmt | write-stmt

4. if-stmt → if exp then stmt-seq end | if exp then stmt-seq else stmt-seq end

5. repeat-stmt → repeat stmt-seq until exp

6. assign-stmt → ID = exp

7. read-stmt → read ID

8. write-stmt → write exp

9. exp → simple-exp < simple-exp | simple-exp = simple-exp | simple-exp

10. simple-exp → simple-exp + term | simple-exp − term | term

11. term → term * factor | term / factor | factor

12. factor → ( exp ) | NUM | ID