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 letter*

NUM = digit 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. *read-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**