**Compiler Lab**

**Assignment #1**

Extend the hand-written compiler discussed in class so that it can translate code segmentsgenerated by the following grammar:

*stmt* → **id :=** *expr;*

| **if** *expr* **then** *stmt*

| **while** *expr* **do** *stmt*

| **begin** *opt\_stmts* **end**

*opt\_stmts* → *stmt\_list* |є

*stmt\_list* → *stmt\_list* *stmt* | *stmt*

Also, modify the grammar for handling expressions so that it can handle relational operators (=, <, >) as well as arithmetic operators (+, -, \*, /). Try to generate x86 assembly as the translated code.