Department of Computer Science
Technical University of Cluj-Napoca

Limbaje formale si translatoare

Translator sql

Tools:Lex and yacc

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Contents

Chapter 1

Introduction

1.1 Scurta prezentare a proiectului

- Scopul proiectului ii de a traduce din limbaj natural in sintaxa Sql. Acest proiect se bazeaza complet pe lex si yacc.
- Proiectul suporta instructiuni de tip SELECT, UPDATE ,DELETE, INSERT cu un vocabular de 27 de cuvinte cheie pentru sintaxa sql.
- link spre github https://github.com/TheWolfOfFarron/SqlParser

Chapter 2

Implementare

2.1 Tokens

- Toti tokeni folositi sunt descrisi mai jos si reprezinta tipuri de sintaxe sql.
- SELECT printf("SELECT "); return SELECT;
- selecteaza printf("SELECT "); return SELECT;
- afiseaza printf("SELECT "); return SELECT;
- UPDATE printf("UPDATE "); return UPDATE;
- actualizeaza printf("UPDATE "); return UPDATE;
- DELETE printf("DELETE "); return DELETE;
- sterge printf("DELETE "); return DELETE;
- INSERT printf("INSERT "); return INSERT;
- adauga printf("INSERT "); return INSERT;
- insereaza printf("INSERT "); return INSERT;
- FROM printf("FROM "); return FROM;
- din printf("FROM "); return FROM;
- in printf("FROM "); return FROM;
- WHERE printf("WHERE "); return WHERE;
- unde printf("WHERE "); return WHERE;
- tot printf("* "); yylval.strval = "*"; return STRING;
- INTO printf("INTO "); return INTO;
- in printf("INTO "); return INTO;
- AND printf("AND "); return AND;
- si printf("AND "); return AND;

- OR printf("OR "); return OR;
- sau printf("OR "); return OR;
- SET printf("SET "); return SET;
- seteaza printf("SET "); return SET;
- VALUES printf("VALUES "); return VALUES;
- valori printf("VALUES "); return VALUES;

2.2 Yacc

- Yacc sintax:

```
select-query: SELECT columns FROM table WHERE conditions { $$ = opr3('s',$

conditions: condition { $$ = opr2('C',$1,NULL); }
 | condition AND conditions { $$ = opr2('a',$1,$3); }
 | condition '>' conditions { $$ = opr2('>',$1,$3); }
 | condition '<' conditions { $$ = opr2('<',$1,$3);}
 | condition '=' conditions { $$ = opr2('=',$1,$3); }
 | condition OR conditions { $$ = opr2('o',$1,$3); }

;
```

- Pentru select am decis ca orice propozitie de tip select incepe cu un token select , coloane tabel si conditi daca exista. De ex "afiseaza tot din anagati unde city = Cluj"
- Pentru conditi am luat in considerare operatiile de baza pentru a putea creea o expresie sql mai complexa.
- Programul nu suporta expresi sql mai complexe precum count(...) sau joins deoarece nu am putut gasi o varianta generala care sa suporte aceste operatii.

Chapter 3

Results, limits and possible improvements

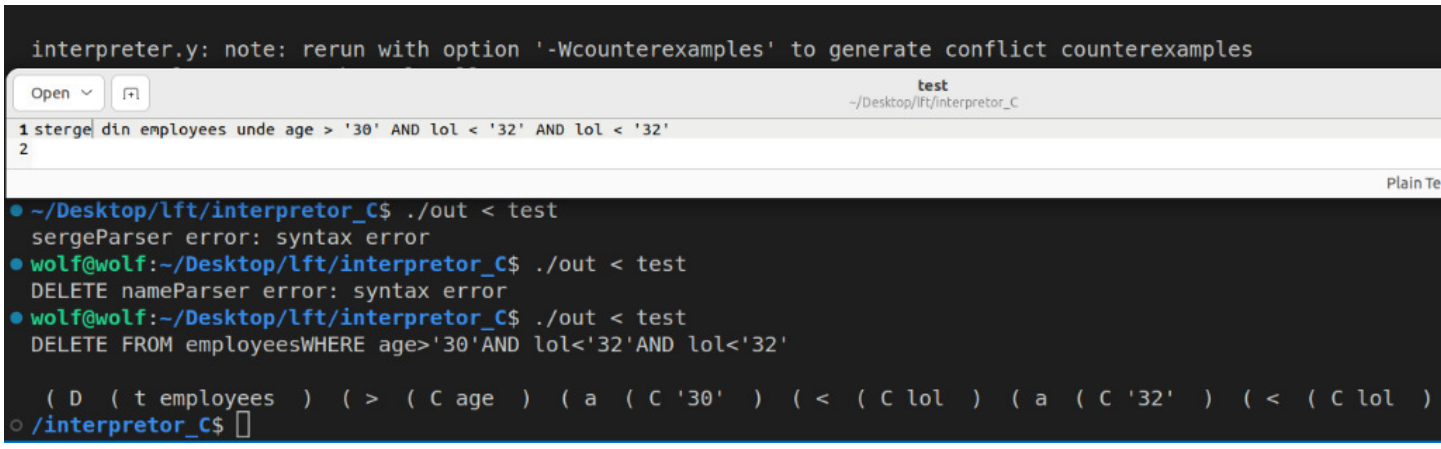

Figure 3.1: Results

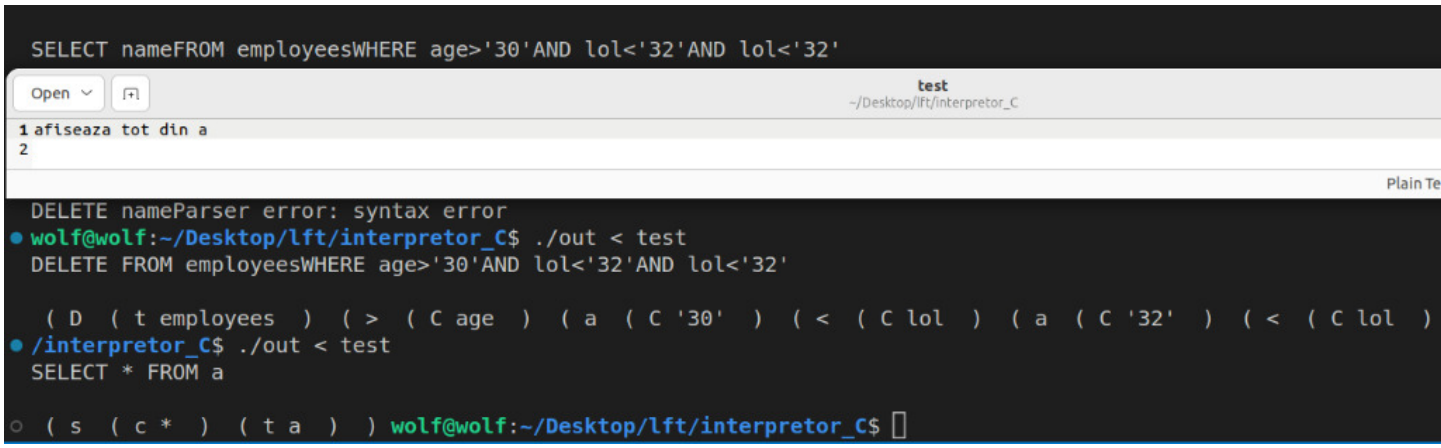

Figure 3.2: Results

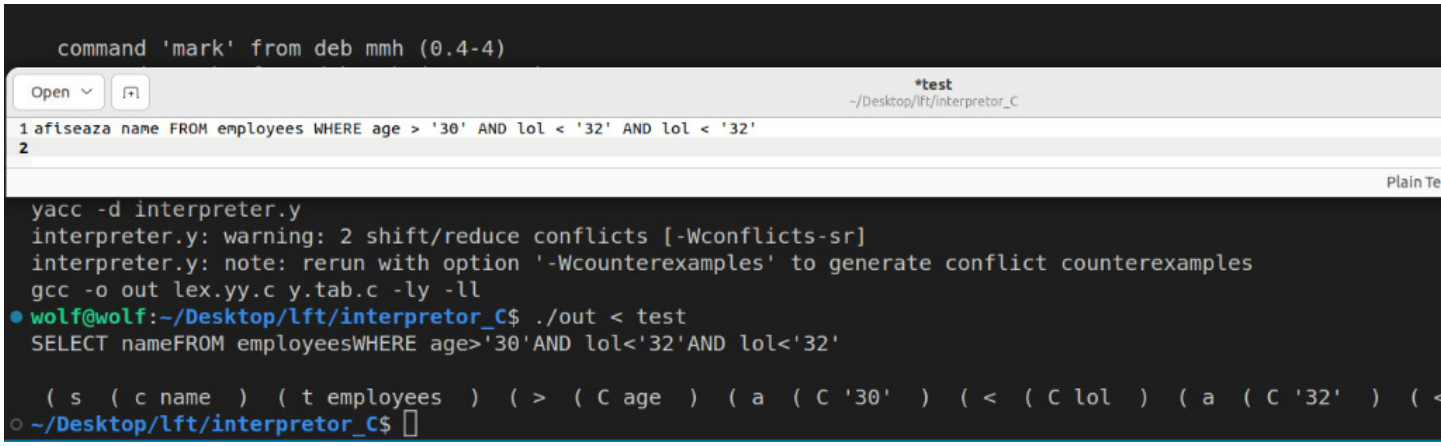

Figure 3.3: Results

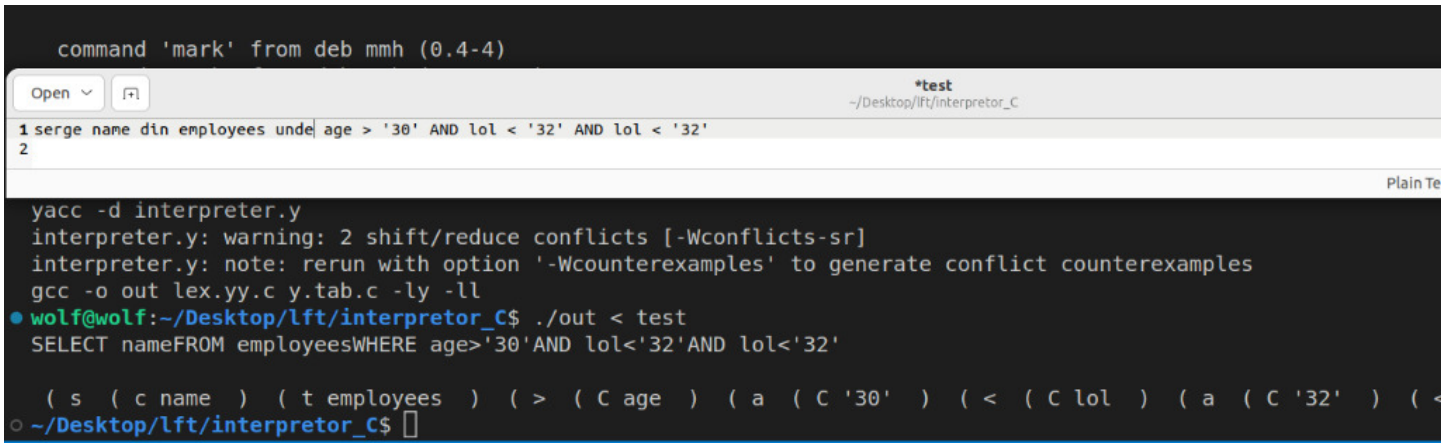

Figure 3.4: Results

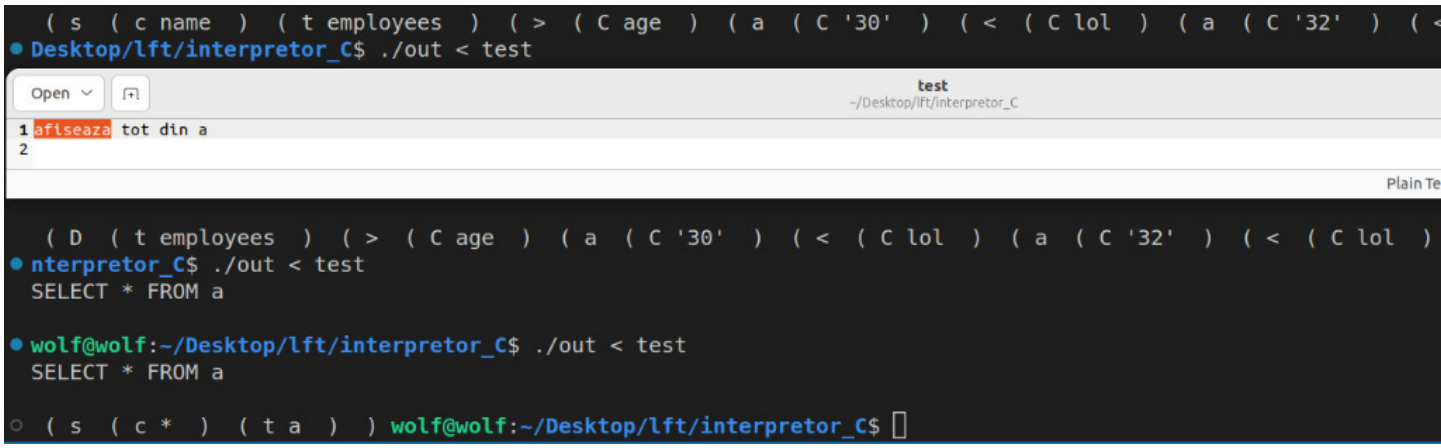

Figure 3.5: Results

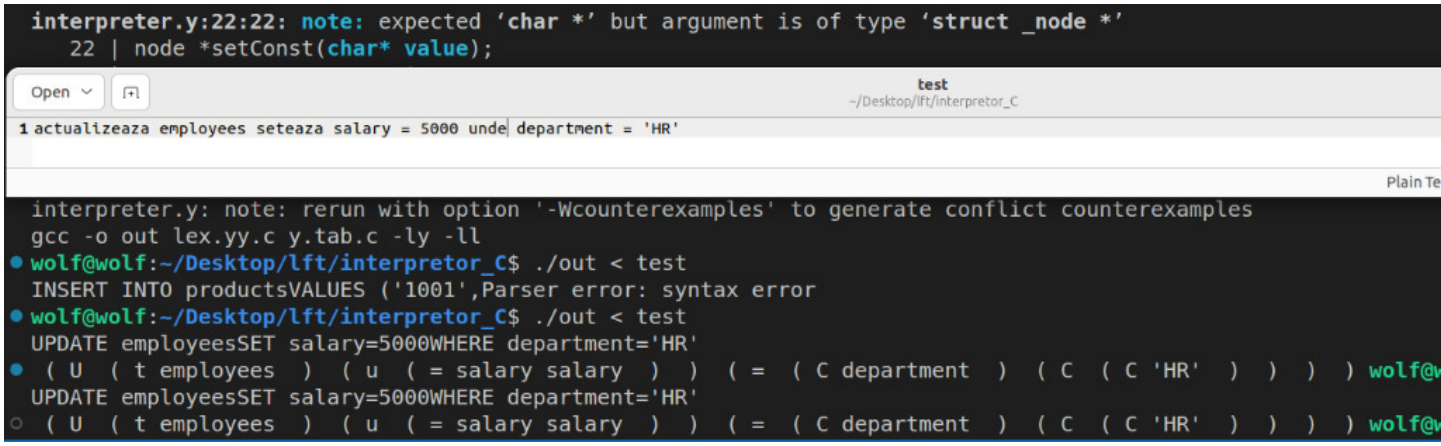

Figure 3.6: Results

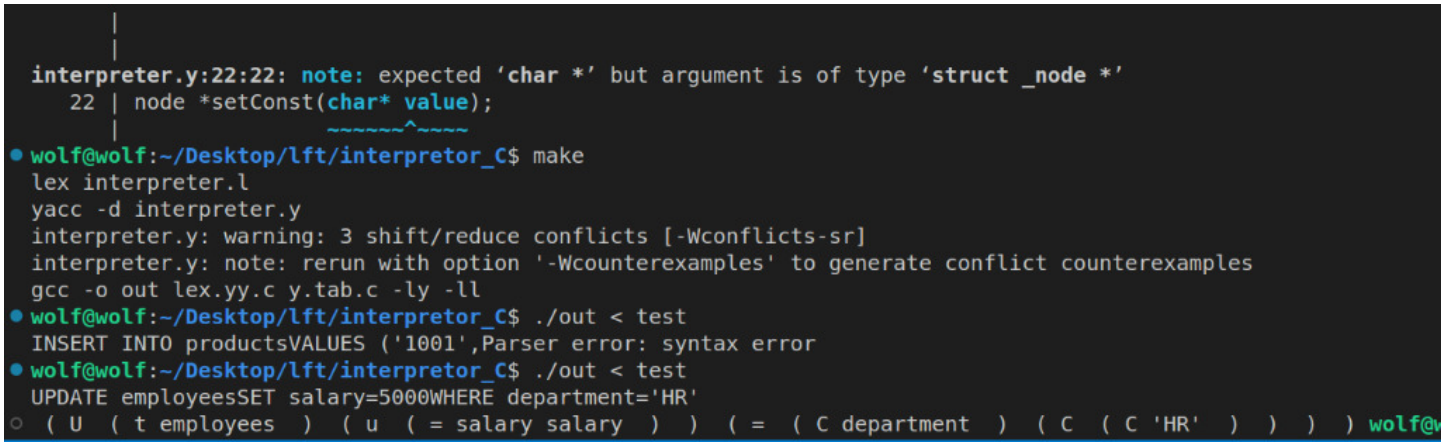

Figure 3.7: Results