2019CSC1038

Harshit Rautela

System Programming – V semester

Semester Assignment – Report

Title: A Flex/Bison program that reads a formula from a table, parses it, replaces the values with proper fieldnames and shows output.

 REQUIREMENTS:

GCC/G++ compiler (MinGW)

Sqlite3.h and sqlite3.o

If sqlite3.c, the source code in C is required, it can be downloaded from [SQLite Download Page](#)

It is also included in a separate zip, so to use it, paste it in the working directory, and create object code by running command:

gcc sqlite3.c -c

Flex and Bison

(All required files are included)

To compile the code, use following commands:

bison -d ss.y

flex ss.l

g++ -o output lex.yy.c ss.tab.c sqlite3.o
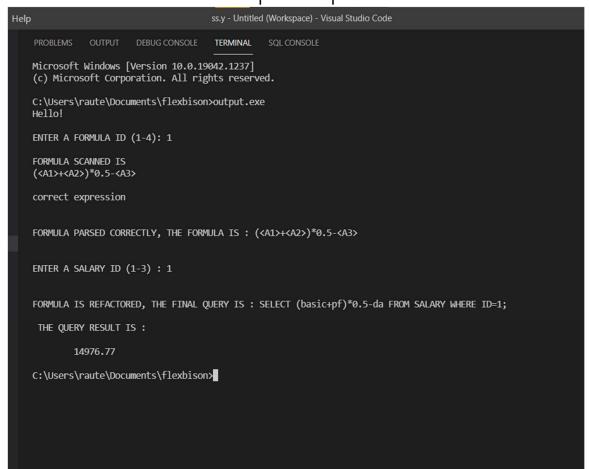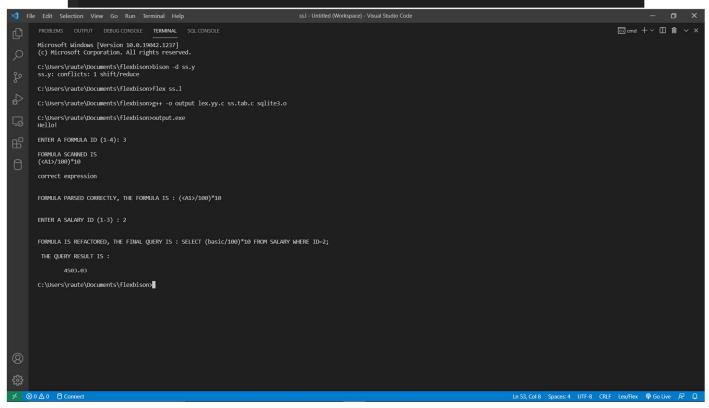
To run the output, use

output.exe

or

./output

Sqlite3 DBMS is used to provide the necessary DB connection, and Sqlite3 particularly is used to access local offline DB.

sqlite3.c is also included in a separate zip, if required.

Sample Outputs:

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**   SQL CONSOLE

```
Microsoft Windows [Version 10.0.19042.1237]
(c) Microsoft Corporation. All rights reserved.

C:\Users\raute\Documents\flexbison>output.exe
Hello!

ENTER A FORMULA ID (1-4): 1

FORMULA SCANNED IS
(<A1>+<A2>)*0.5-<A3>

correct expression


FORMULA PARSED CORRECTLY, THE FORMULA IS : (<A1>+<A2>)*0.5-<A3>


ENTER A SALARY ID (1-3) : 1


FORMULA IS REFACTORED, THE FINAL QUERY IS : SELECT (basic+pf)*0.5-da FROM SALARY WHERE ID=1;

 THE QUERY RESULT IS :

        14976.77

C:\Users\raute\Documents\flexbison>
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   SQL CONSOLE

```
Microsoft Windows [Version 10.0.19042.1237]
(c) Microsoft Corporation. All rights reserved.

C:\Users\raute\Documents\flexbison>bison -d ss.y
ss.y: conflicts: 1 shift/reduce

C:\Users\raute\Documents\flexbison>flex ss.l

C:\Users\raute\Documents\flexbison>g++ -o output lex.yy.c ss.tab.c sqlite3.o

C:\Users\raute\Documents\flexbison>output.exe
Hello!

ENTER A FORMULA ID (1-4): 3

FORMULA SCANNED IS
(<A1>/100)*10

correct expression


FORMULA PARSED CORRECTLY, THE FORMULA IS : (<A1>/100)*10

ENTER A SALARY ID (1-3) : 2

FORMULA IS REFACTORED, THE FINAL QUERY IS : SELECT (basic/100)*10 FROM SALARY WHERE ID=2;

 THE QUERY RESULT IS :

        4503.03

C:\Users\raute\Documents\flexbison>
```

Ln 53, Col 8   Spaces: 4   UTF-8   CRLF   Lex/Flex   Go Live

The same query run by code and SQL program:

```
FORMULA IS REFACTORED, THE FINAL QUERY IS : SELECT (basic/100)*10 FROM SALARY WHERE ID=2;

 THE QUERY RESULT IS :

       4503.03

C:\Users\raute\Documents\flexbison>sqlite3
SQLite version 3.36.0 2021-06-18 18:36:39
Enter ".help" for usage hints.
Connected to a transient in-memory database.
Use ".open FILENAME" to reopen on a persistent database.
sqlite> .open mydb.db
sqlite> SELECT (basic/100)*10 FROM SALARY WHERE ID=2;
4503.03
sqlite>
```