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Project

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BCSE III – Compiler Design Lab

Project - 6

An SQL parser can check syntax errors in SQL statements. Consider a simple set of SQL statements consisting of only CREATE TABLE, INSERT and SELECT.
The SELECT statement supports "where" clause with the following operator =, >, <, BETWEEN, LIKE, IN. No nesting of SELECT statements are supported.

For CREATE TABLE, only the following format is supported:

```
CREATE TABLE table_name (
   column1 datatype,
   column2 datatype,
   column3 datatype,
  ....
   PRIMARY KEY (column)
);
```

For INSERT statement, the following formats are supported:

```
INSERT INTO table_name (column1, column2, column3, ...)
VALUES (value1, value2, value3, ...);
```

OR

```
INSERT INTO table_name
VALUES (value1, value2, value3, ...);
```

Part I – Construct a CFG for this language.
Part II – Write a lexical analyser to scan the stream of characters from a SQL query (as above) and generate stream of tokens.
Part III – Write a top-down parser to detect syntax errors in the SQL queries (modules include FIRST, FOLLOW, parsing table construction and parsing).

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