Query Processor

Provide SQL querying capabilities on CSV files.

In this assignment, you will be writing a program that takes an SQL statement as input and gives the result of the query as output. Typical queries would look like this:

Example 1
```
SELECT *
FROM student.csv
```

Example 2
```
SELECT *
FROM student.csv
WHERE student.class = "I MTech"
ORDER BY student.reg_no ASC;
```

Example 3
```
SELECT customer.name, account.balance
FROM customer.csv NATURAL JOIN account.csv
WHERE account.balance >= 100000
ORDER BY account.balance DESC;
```

Assume that the first row of the CSV file contains the attribute names.

- The SELECT clause should support projection of the specified attributes and projection of all the attributes (specified by *).
- The FROM clause should support cross product (cartesian join) and natural join.
- The WHERE clause should support equality and inequality of integers and strings. (For the sake of this assignment do not bother about nested queries and compound conditions using and, or, not, etc.)
- The ORDER BY clause should support sorting on an attribute in ascending or descending order. (If no ordering is specified, the default is ascending order).
- SELECT and FROM clauses are mandatory. WHERE and ORDER BY clauses are optional.
- The query result must be written to a CSV file.
- You may assume, for the sake of simplicity, that the whole table will fit in the main memory. Do not bother about pipelining or materialization.
- You may use Python or Java for implementation.