Instructions:

1. Build the index files:
`./build_index.sh`

2.Run the python file:
`python3 main.py`

Information about files:

build_index.sh overview:
Bashscript which sorts the given files and creates indices pt.idx(btree), rtidx(btree), sc.idx(btree),
and rw.idx(hash)

main.py overview:
Provides the interface for the user to input the queries. The input is then parsed and sent to the info module for its execution.

connection.py:
Opens the idx files created by build_index.sh, gets the cursors and closes the idx files and the cursors.

info.py:
Responsible for executing the query inserted by the user.

Parser Overview:

The main point of the parser is to break down the query into different components that can be further evaluated easily. It uses four functions to do so:

KeyWordParser:
- Input: Query
- Description: Parser to separate the terms from the query.
- Method: Works using distance between words to classify words as terms and keywords.
- Further classfies each term into an rterm or pterm boolean.
- Output: A dictionary of terms with their respective flags.

ScoreParser:
- Input: Query
- Description: Parser to separate the scores from the query.
- Method: Uses re to find patterns and partitions to ensure the handling of multiple score words.
- Output: A tuple (low,high) denoting the interval.

PriceParser:
- Input: Query
- Description: Parser to separate the price from the query.

Method: Uses re to find patterns and partitions
to ensure the handling of multiple score words.
Output: A tuple (low,high) denoting the interval.

DateParser:
Input: Query
Description: Parser to separate the date from the query.
Method: Uses partition to separate the date, and
searches for a pattern of inequality signs.
Output: A tuple bound (low,high) for the range
of dates.

Testing Strategy:

The main method of testing was ensuring all edge cases are strictly handled
by testing each individual component separately.
Then,we used the given files for testing, and made up queries in
order to test the parser. Upon the completion of which, we moved
on to full fledged testing with the proper running of the code.

Division of work:
We used GitHub as the platform to manage our work.
Vyome handled Phase1, query optimization, built indices, and handled the connection.
Sutanshu handled Phase2, and mainly, the Parser.
The two of us tested the project, documented the code, and wrote the other documents.