Database Management Lab Assignment 8

Hand out: 06.04.2022 , Due: 06.04.2022, 11:59 PM

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Instructions:

- Write executable queries for each of the questions.
- Paste screen-shots containing both the query as well as the output depicting the execution times before and after using indexing, generate a pdf and submit.
- Submit one .pdf file containing all the questions along with their solutions
- Submission format: <roll_no.>_Assignment<number>.pdf

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1. Consider the following queries to '*film*' table from the *dvdrental* database:
    - find the details of the film with title 'Amadeus Holy'.
    - find all films which have rental rate > 2.

    Create an appropriate index on the search keys to make the queries efficient. Justify your index choice by comparing the execution time of the above queries with and without using index. (2 marks)

2. Create a generalized inverted index on the ``special features'' column of the *film* table in the *dvdrental* database. Compare the response time of the following queries with or without using index. (2 marks)
    - find all films with the special features "Drama"
    - find all films with the special feature ''Commentaries''

Hint : the column type is an array. You can search array using Command:
value = ANY(<array name>) ,
the array comparison operator in GIN: <attribute> @> Array[value]

3. Create a table called ‘dummy2’ having 2 attributes i.e. ‘sub1’ and ‘sub2’, ‘sub1’ contains randomly generated text sequences and ‘sub2’ contains random integer values in the range 0-100.

   Populate the table with 100000 records. Write a query to filter out records having ‘ecr’ as a subsequence in ‘sub1’ and value of ‘sub2’ > 5.

   - Analyze the execution time of the query without indexing.
   - Use appropriate indexing for cutting down the execution time of the above query.

   Finally, drop the created index.

   Write a short justification for the choice of index. (2 marks)