

Week9- Tutorial

Database Performance Tuning and Query Optimization

1. What is SQL performance tuning?
2. What is the focus of most performance tuning activities, and why does that focus exist?
3. How are database statistics obtained?
4. If indexes are so important, why not index every column in every table? (Include a brief discussion of the role played by data sparsity).
5. Most query optimization techniques are designed to make the optimizer's work easier. What factors should you keep in mind if you intend to write conditional expressions in SQL code?
6. What does RAID stand for, and what are some commonly used RAID levels?
7. Answer questions 7 (a) and (b), based on the following query:

```
SELECT      EMP_LNAME, EMP_FNAME, EMP_AREACODE,  
EMP_SEX  
FROM        EMPLOYEE  
WHERE       EMP_SEX = 'F' AND EMP_AREACODE = '615'  
ORDER BY    EMP_LNAME, EMP_FNAME;
```

- a. What is the likely data sparsity of the EMP_SEX column?
- b. What indexes should you create? Write the required SQL commands.