DB - HW9

12.13

Suppose you have data that should not be lost on disk failure, and the application is write-intensive. How would you store the data?

Answer:

As RAID array can handle the failure of drive, i would like to choose one of its alternatives to store my data. And RAID 1 and RAID 5 both performs well in write-intensive cases.

If the writes are random, I'd like to choose RAID 1, for writing a random block needs multiple reads and writes in RAID 5.

Otherwise, I'd like to choose RAID 5, for its storage cost is smaller.

13.11

List two advantages and two disadvantages of each of the following strategies for storing a relational database:

a. Store each relation in one file.

b. Store multiple relations (perhaps even the entire database) in one file.

Answer:

a.

- Advantages:
    - We can use the operating system's file system, which simplifies the DBMS
    - Database files can be stored in different hard disks so that several hard disk data can be accessed at the same time, and thus improving the efficiency of data processing
- Disadvantages:
    - It's hard for DBMS to have a better performance by using a more complicated storage structure
    - It's harder to make a data backup

b.

- Advantages:
    - DBMS can have better performance by implementing complex structures
    - It's easier to make data backup
- Disadvantages:
    - Larger the size of DBMS

- DBMS is more complicated