## Chapter 6.3 Redo Logging

*Defect About Undo Logging File:*

Before all Data Modifications have been updated to the Disk, we can not COMMIT current Transaction. However, makes the Database Modifications only exist in the Main Memory can help us save Disk I/O. As long as there has Logging File which can help repair Logging File, then this is safe.

Definition:

*Undo Schema:*

Prevent the need to write back any Database Element before COMMIT the Transaction.

*Main Difference between Redo and Undo Logging File:*

1. Undo Logging Record eliminates any influences from unfinished Transaction and neglect any submitted Transactions; While Redo Logging File is to neglect any unfinished Transaction and repeat the procedure to submit all changes for commit Transactions.
2. Undo Logging Record asks us to update all Database Elements to the Disk before COMMIT Logging Record reaches the Disk. While Redo Logging File is to ask Update all COMMIT Logging Records to the Disk and after that update all Database Element Changes to the Disk.

*Conclusion:*

* When using Undo Schema to obey Rule U1 and U2, then we need to use *OLD Value of Database Elements* to revert all changes in the Main Memory and Disk.
* When using Redo Schema, then we need to use *New Value of Database Elements* to update to the Main Memory and Disk.

Chapter 6.3.1 Redo Logging Rule

Chapter 6.3.2 Recovery by using Redo Logging File

Chapter 6.3.3 Checkpoint for Redo Logging File

Chapter 6.3.4 Recovery by using Redo Logging File with Checkpoint