Deferred Update:

1. Transaction operations do not immediately update the physical database.
2. DB is typically updated only after the transaction reaches its commit point.

|  |
| --- |
| A=100$200  B=200$400 |

Example # 01:

|  |  |
| --- | --- |
| Transaction T1 | Log |
| R(A)  A=A+100  W(A)  R(B)  B=B+200  W(B)  --------\*  Commit | <T1, Start>  <T1,A,200>  <T1,B,400>  <T1,commit> |

Example # 02:

T1: Redo

T2: nothing

|  |
| --- |
| Log |
| <T1, Start>  <T1,A,200>  <T1,B,400>  <T1,commit>  <T2, Start>  <T2, C, 500>  \* |

Immediate Update:

1. DB is immediately updated by the transaction operation during the execution of transaction even before it reaches commit.
2. Abort/Failure before it reaches commit, rollback or undo operation needs to be done to restore the DB to its consistent state.

|  |
| --- |
| A=100$200$100  B=200$400$200 |

Num1=13

Example # 01:

|  |  |
| --- | --- |
| Transaction T1 | Log |
| R(A)  A=A+100  W(A)  R(B)  B=B+200  W(B)  \*  Commit | <T1, Start>  <T1, A, 100, 200>  <T1, B, 200, 400>  <T1, commit> |

Example # 02:

T1:Redo

T2:Undo

|  |
| --- |
| Log |
| <T1, Start>  <T1,A,1000,2000>  <T1,B,5000,6000>  <T1, commit>  <T2, Start>  <T2, C, 700, 800>  \* |