6.033 Computer System Engineering

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Implementing all-or-nothing atomicity

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Xfer

- xfer(A, B, amt)
  - A <- A – amt;
  - B <- B + amt;

recovery

start at the top:

    while more records

        if commit add t to committed list

        if change and t not in committed list, undo

start at the bottom:

    while more records

        if change and t in committed list, redo

Scenario

```
<begin 17>
<begin 18>
<change 18 F 4500 5300>
<outcome 18 abort>
<begin 19>
<change 19 F 4500 5000>
<outcome 19 commit>
<change 17 F 5000 4000>
<change 17 B 7500 8500>
<outcome 17 commit>
```