



At-most-once Atomicity With Logs

6.033 2008 Lecture 17



Log-only Read

```
read(var):
  cset = { }
  for i = len(log) down to 0:
    r = log[i]
    if r is a Commit:
      cset = cset ∪ r.TID
    if (r is a Modify and r.TID in cset
        and r.var == var):
      return r.new
```



Write-ahead-log Recovery

```
recover():
  cset = { }
  for i = len(log) down to 0:
    r = log[i]
    if r is a Commit:
      cset = cset ∪ r.TID
    if r is a Modify and r.TID NOT in cset:
      write r.old to r.var
  for i = 0 to len(log):
    if r is a Modify and r.TID in cset:
      write r.new to r.var
```