

Journaling File Systems

Operations required to remove a file in UNIX:

1. Remove the file from its directory
 - set inode number to 0
2. Release the i-node to the pool of free i-nodes
 - clear the bit in inode bitmap
3. Return all the disk blocks to the pool of free disk blocks
 - clear the bits in block bitmap

What if crash occurs between 1 and 2, or between 2 and 3?