

SUBJECT: Error in hash-coding algorithm

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In repository document M0082, the example of a hash coding algorithm for storage and retrieval of key-value pairs contains a serious but subtle error. In particular when a key-value pair is deleted, the M0082 version does not properly attempt to remove "skip" flags wherever possible from other already empty table entries. This bug, in general, will cause much longer lookup and deletion execution times. The bug is easily removed with the following change on the third page of the algorithm

Replace

```
p -> table(i).skip = p -> table(j).full | p -> table(j).skip;
```

by

```
scavenge:
p -> table(i).skip = p -> table(j).full | p -> table(j).skip;
j = i; i = mod(i+n-2, n) + 1; /* backup indices by one */
if ¬(p -> table(i).full | p -> table(j).skip) then go to scavenge;
```