530 (file update) A master file of records and a transaction file of records are to be read, one record at a time, and a new file of records is to be written, one record at a time. A record consists of two text fields: a "key" field and an "info" field. The master file is kept in order of its keys, without duplicate keys, and with a final record having a sentinel key "zzzzz" guaranteed to be larger than all other keys. The transaction file is also sorted in order of its keys, with the same final sentinel key, but it may have duplicate keys. The new file is like the master file, but with changes as signified by the transaction file. If the transaction file contains a record with a key that does not appear in the master file, that record is to be added. If the transaction file contains a record with a key that does appear in the master file, that record is a change of the "info" field, unless the "info" text is the empty text, in which case it signifies record deletion. Whenever the transaction file contains a repeated key, the last record for each key determines the result.

After trying the question, scroll down to the solution.

```
§   update  =  master?. transaction?. record:= "key"→"" | "info"→"". rest
    rest    =  if master "key" < transaction "key"
               then write. record:= master. rest                                   no change
               else if master "key" = transaction "key"
               then   if master "key" < "zzzzz"                                    change or
                      then write. record:= transaction. master?. transaction?. rest  delete
                      else write. new! master fi                                    end
               else   if record "key" < transaction "key"
                      then write. record:= transaction. transaction?. rest          insert
                      else record:= transaction. transaction?. rest fi fi fi        repeated key
    write   =  if record "info" = "" then ok else new! record fi
```