

Q: What is a **TECHBASE** database lock?

A: All multi-user **TECHBASE** environments have database locks to help preserve the integrity of the data. This scheme is used to prevent data from being corrupted by two or more users trying to write to the same table at the same time. The locks will, however, allow multiple users to read from a table at the same time.

A lock is created by any program that accesses the database (e.g. *DEFINE*, *TBEDIT*, *SECTION*) and is placed on the table or tables being used by that program. If a table has been opened for writing, no other user will be allowed access to those tables. If someone is using the *DEFINE* program, all other access to the opened database is cut off until the database has been closed or the *DEFINE* program has been exited. If a table has been opened for reading, other users can also open the same table for reading.

Q: How is this different from older versions of **TECHBASE**?

A: On the multi-user environments, the database locking feature has been present since version 2.1, and so new versions are no different from the old.

DOS and Macintosh versions of **TECHBASE** previous to 2.3 do not have the database locking feature. Those platforms were originally single-user environments where locks were unnecessary. Now, due to the increased popularity of NETWORK systems, PCs and Macintoshes have become multi-user environments, so recent versions of **TECHBASE** have been adapted to include the database locks. The advantage for DOS and Macintosh users is that they can now have several single-user copies of the **TECHBASE** software accessing the same database without the worry of compromising database integrity.

Q: When are the locks activated?

A: As described above, locks are activated when a **TECHBASE** program is using a specific table or tables. The lock remains in place until the program has finished accessing that data. Therefore, it is possible that two people can simultaneously write to the same database, although they can not write to the same table or tables in that database.

When a database is locked, you will receive a message similar to the following:

```
Waiting for W access to database.0xx - Try - 5..."
```

The wait count will increase in number until a break, when you will be asked if you want to continue waiting. Press any key to continue your wait, or **^X** to cancel the operation.

Q: How can I tell who has the database locked?

A: If you receive a message that the database is locked, you can either try again later or you can run the *DEFINE* program to see who is using the database and what programs are being used.

To view a database lock, you will need to run *DEFINE* without the database open. You can do this either by typing **define** at the system prompt or by highlighting the *DEFINE* program in the **TECHBASE** Main Menu and then typing a hyphen. Once you are in *DEFINE*, go to the *Database* menu and select the *Unlock* option. **TECHBASE** will then display a list of the locks that includes which program set them and when the lock was set. On network systems that require a login, the list will also tell which user set the lock.

Technote: TECHBASE Database Locking Scheme

```
Locks set for database = MINE
-----
locks for database
  W TBEDIT      mike@jasper      3619  1996/03/29;14:24:08
  R SECTION    larry@crystal    9186  1996/03/29;15:14:26

locks for table: kar
  W TBEDIT      mike@jasper      3619  1996/03/29;14:26:14

locks for table: collars
  R SECTION    larry@crystal    9186  1996/03/29;15:14:14
```

The lock type for each table is indicated by *R* for READ lock, *W* for WRITE lock, and *X* for EXCLUSIVE lock. Press **<SPACE>** to continue, and **TECHBASE** will ask whether or not you wish to remove the locks. If you only want to view the locks, type **N** and exit from *DEFINE*.

Q: If I encounter a lock, should I automatically remove it?

A: **No!** Confirming the unlock should be done with caution and **ONLY** after careful examination. If you delete a lock for a user who is currently in the program, all protection is lost, and data may be corrupted if you and the other user write to the same database table. Before answering YES to removing a database lock, check with your fellow users to make absolutely sure that such a removal is approved.

Q: What if I encounter a lock when I know that no one else is using the database?

A: When you exit from a program in the normal fashion, the locks are removed from the database and tables. When you do not exit via the menu system (e.g. - you crash from a program or reboot while still in a program), a lock may not be cleared and may be left in place.

Thus, you or another user can inadvertently lock a database against ALL users because **TECHBASE** will see the uncleared lock and will behave as if that database is in use. If you have left a lock on a database and are on a network, you will see your login name as the user when you view the locks in *DEFINE*. In this instance, unless someone else is using your account, you can remove the lock without fear of integrity problems.

Q: If several locks are listed, can I selectively remove some, but leave others in place?

A: No. At this time, all locks must be removed at once. It is a good idea to have all other users close the database first. After you remove the leftover locks, they can reopen the database.

Q: Will I ever encounter a lock that I cannot remove?

A: If the database or its directory has write protections set such that you cannot write to that database, then you will not be able to remove the lock. Contact your systems administrator for assistance

For more information on locks, see [“Define - Define creates/modifies databases, tables, and fields” on page 1tb-3](#)