TECHBASE is a relational database system, that yields a structure which:

a) Uses the space on the computer more efficiently, by not duplicating data.;

b) Makes it easier to access and manipulate the data, since there are less data to sift through.

c) Preserves the integrity of the data, because duplicate data are not stored.;

The following example describes a database structure for drillhole (aka borehole, water well etc.) data. Separate tables would be created for the different types of data. Separate FLAT tables would be created for drillhole LOCATION data and for drillhole SAMPLE data. Although data can be collected in many different formats, all TECHBASE requires is that it be in an ASCII file. It is more convenient if the data is provided to the LOAD program in two files, one for the Location data and one for SAMPLE data. Examples of what these files may look like are shown below.

Location Data:

```
id        easting     northing    elev    td
85-10     9984.0      21532.0     5666    120
85-100    11392.0     20242.0     5474    360
85-101    11406.0     20664.0     5442    360
etc.
```

Sample Data:

```
id       from    to      samp1      samp2 etc.
85-10    0.0     10.0    0.0018     1.2
85-10    10.0    20.0    .0048      2.4
85-10    20.0    30.0    .0005      1.7
etc.
```

Location contains information about the location of the drillholes:

If the Location data is put in the same table with the Sample data it would have the easting and northing duplicated for each interval down the hole. Benefits from storing the data in two tables are:

a) Save space by having the location information in its own table.

b) Preserve the integrity of the data, since information is not duplicated many times for each hole. For example a correction to coordinates would be made in only one record for a drillhole.

c) Makes access to the data quicker and easier. For example a location plot can be made without using the sample data.

Sample is the assay information about each hole in the data set. The same principle applies to this data in the following ways:

a) This table contains the intervals (\fIfrom\fP one point down the hole \fIto\fP another point down the hole) and a value for that interval. Because they are in their own table it is easy to check for duplicate intervals or any other type of inconsistencies.

b) Preserves the integrity of the downhole information, since duplicate data is not being stored.

c) Makes access to the data quicker and easier. For example statistics on the sample values can be made without using the locations.

> Note: The relation between the two tables is made by the common field *id*. The field *id* is created once. After that it is simply added to the other tables.

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Your database structure would look something like this:

```
Table collar is a FLAT table with 15 records
            collar_rec  collar_nul  id          easting
            northing    elevation   total_depth

Table sample is a FLAT table with 389 records
            sample_rec  sample_nul  id          from_a
            to_a        samp1       samp2
```

Note: Field names should be changed to conform with your standards.

There may also be Lithology, and Survey data supplied. Which would be setup in a similar manner.

Lithology Data:

id	from	to	lithology
85-10	0.0	14.5	ALLUVIUM
85-10	14.5	53.4	SHALE
85-10	53.4	59.3	QUARTZ

Survey Date:

id	depth	azimuth	dip
85-10	0.0	265.5	45.5
85.10	50.0	264.5	46.0
85.10	100.0	263.0	47.5

Note: The *id* field is added to the *Lithology* and *Survey* tables to continue the relation between all the tables. *Lithology* is recorded for different intervals than the *Sample* data, therefore it requires unique names for the *from* and *to* information.

```
Table collar is a FLAT table with 15 records
            collar_rec  collar_nul  id          easting
            northing    elevation   total_depth

Table sample is a FLAT table with 389 records
            sample_rec  sample_nul  id          from_a
            to_a        samp1       samp2

Table lithology is a FLAT table with 147 records
            lithology_reclithology_nulid        from_l
            to_l        lithology

Table survey is a FLAT table with 108 records
            survey_rec  survey_nul  id          depth
            azimuth     dip
```

TECHBASE does not require Key fields or JOIN tables to execute the SECTION or COMPOSIT programs. These programs assume that the tables are related (by id in this case.)

For more information about the different FIELD and TABLE types look in the TECHBASE Reference Manual in **Define(tb)**. For more information on load formats look in Load(1tb).

See Also

Define(tb)
Load(tb)

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