1. What is types statement in SAP ABAP programing?

Types is a statement which is used to define user-defined structure in SAP ABAP programming.

TYPES: BEGIN OF TY\_TABLE,

MATNR TYPE MARA-MATNR,

MTART TYPE MARA-MTART,

MEINS TYPE MARA-MEINS,

END OF TY\_TABLE.

1. What is DDIC?

It allows to create custom tables. There are other objects that can be created using DDIC viz. Data Elements, Domain, Lock Objects, Search Help, Structure, Table Type

1. How to add new fields to existing MARA or any other SAP table?

Append Structure, Include Structure

1. What is a Database Interface?

Database Interface is a component of the Application Server.

1. What tasks are done by the Database Interface?

The database interface provides the following services:

1. Converts Open SQL into Native SQL of the application.

2. Access to database tables.

3. Access to R/3 Repository objects (ABAP programs, screens and so on).

4. Access to catalog information (ABAP Dictionary).

5. Table buffer administration of the application server.

1. What role does Database Interface play for Open SQL?

The database interface Converts Open SQL into Native SQL of the application.

1. What is Open SQL?

Open SQL statements are a subset of Standard SQL. They allow you to access data irrespective of the database system that the R/3 installation is using. Open SQL consists of the Data Manipulation Language (DML) part of Standard SQL. It allows the user to read (SELECT) and change (INSERT, UPDATE, DELETE) data.

Open SQL thus provides a uniform syntax and semantics for all the database systems supported by SAP. ABAP programs that only use Open SQL statements will work in any R/3 system, regardless of the database system in use. Open SQL statements can only work with database tables that have been created in the ABAP dictionary

1. What is Native SQL?

Native SQL allows you to use database-specific SQL statements in an ABAP program.

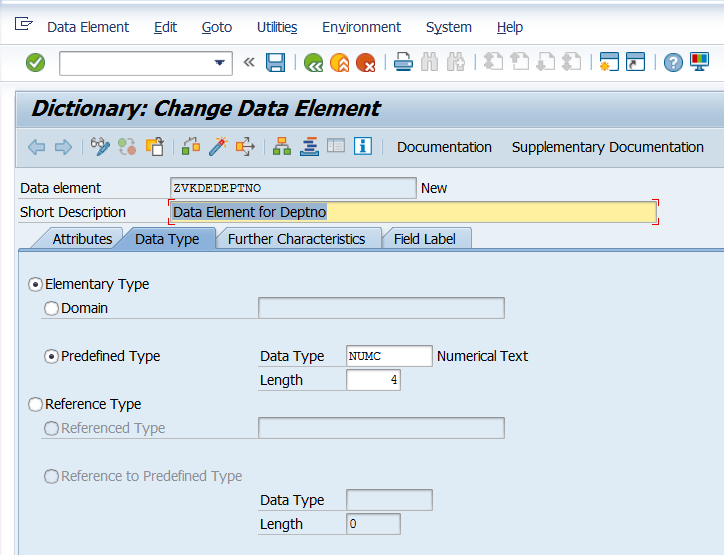
To use Native SQL statement, you must precede it with the EXEC SQL statement, and follow it with the ENDEXEC statement. Native SQL statements are not checked and converted, but instead are sent directly to the database system.

An ABAP program containing database-specific SQL statements will not run under different database systems

1. What is a Data Element?

A data element in ABAP Dictionary defines an [elementary data type](javascript:call_link('abenelementary_data_type_glosry.htm')) or a [reference type](javascript:call_link('abenreference_type_glosry.htm')) and describes, the semantic meaning of an object.

The type attributes of a data element are defined either directly or using a domain.



1. Can Data Element exist without a domain?

Yes. It can be based on Predefined Type as shown above.

1. Can Data Elements be searched?

Yes. SE11. Select Radio Button Data Type. Enter Object Name eg. ZV\*. Press F4.

In the screen that follows, Click on Search for Data Elements.

1. Where are field labels created in Data Dictionary?

Field Labels are created when a data Element is created.

1. Where is documentation in Data Dictionary?

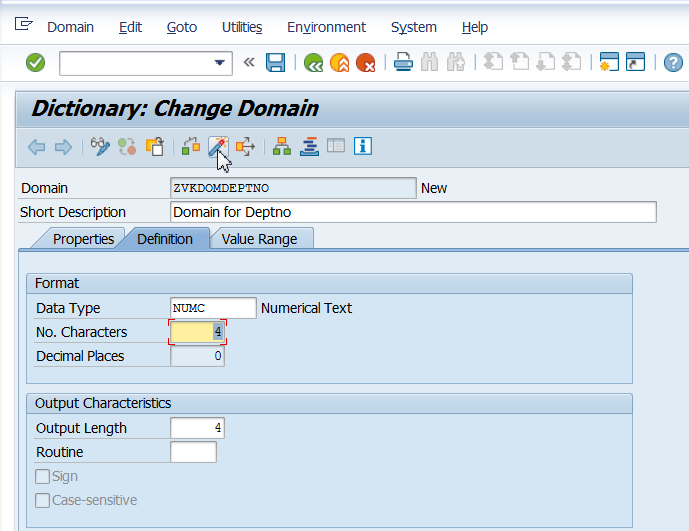
Documentation is created when a data Element is created.

1. What is a Domain?

A [domain](javascript:call_link('abenddic_domains.htm')) describes the attributes of data elements, such as the actual data type or the value range. A domain can be used by any number of data elements.

A domain describes the technical settings of a table field.

A domain defines a value range, which sets the permissible data values for the fields, which refers to this domain. A single domain can be used as basis for any number of fields that are identical in structure.



1. Can a domain exist without a Data Element?

No.

1. What is a check table?

It is a table which contains all valid entries of a field.

The check table defines the foreign keys and is part of the table definition. Check table is validation at field level. Check table is defined against a field in SE11 if you want the values in that field to be checked against a list of valid values. For e.g. if you are using the field matnr in a table you could define MARA as the check table.

1. What is value table?

It is a table which contains all valid entries of a domain. This domain can be reused in multiple tables. The check against the value table only takes effect when a foreign key\* has been defined.

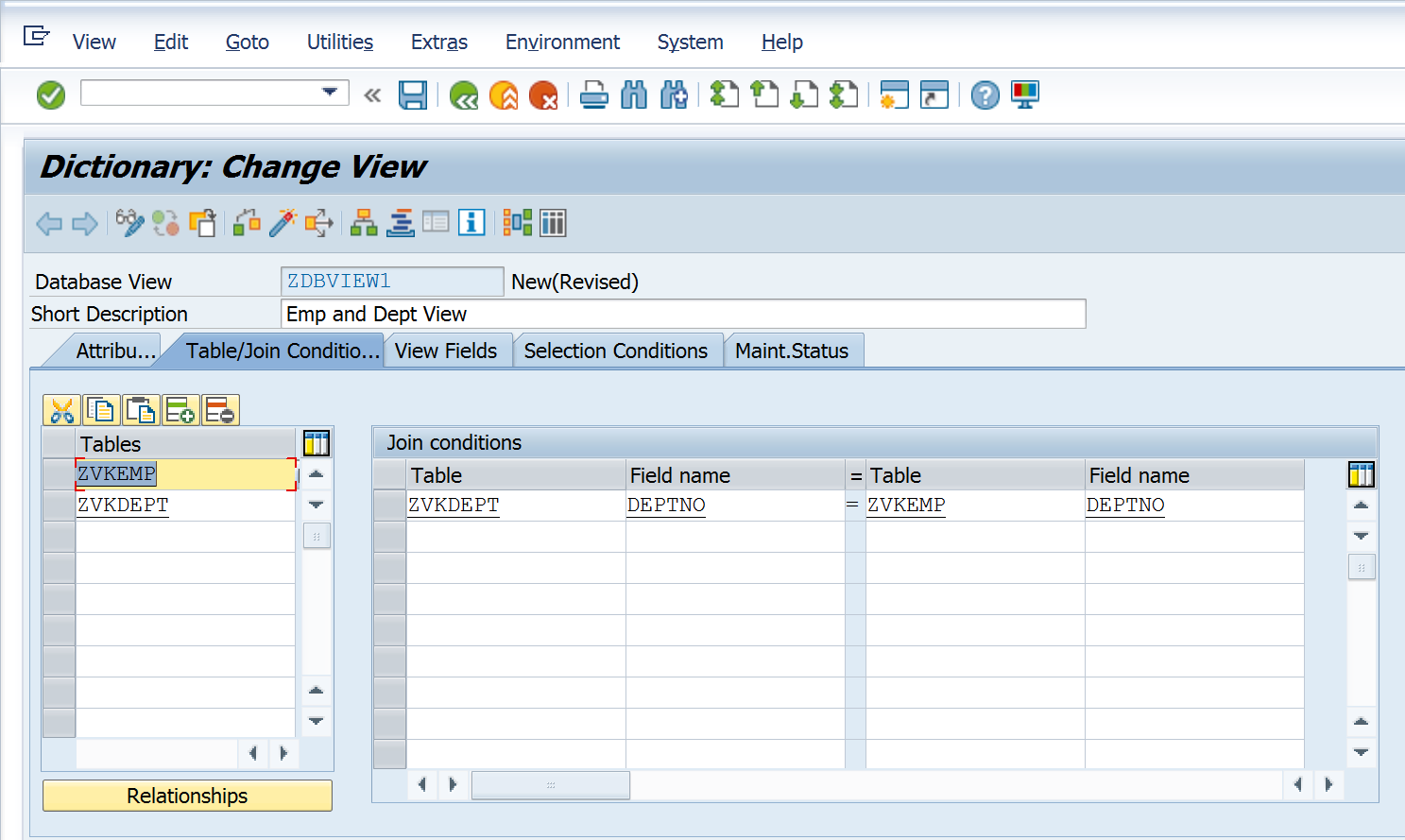
1. What is a database view?

Database views are implement an inner join, that is, only records of the primary table (selected via the join operation) for which the corresponding records of the secondary tables also exist are fetched. Inconsistencies between primary and secondary table could, therefore, lead to a reduced selection set. A matching SQL view is created on the database when the view is activated.

1. Identify the mandatory steps required to create a database view?

Following are the mandatory steps.

1. Select Tables
2. Establish Relationship Between Tables
3. Select fields
4. Selection Condition can be specified(Optional)



1. What is a projection view?

Projection view is a special view for hiding fields from a single basis table. An SQL view is not created on the database. No selection conditions can be specified for a projection view.

A projection view can be based on only one table.

|  |
| --- |
| 1. Can a search help be based on field based on pre-defined data types?   No. If you attach a search help to a field, such that the field is based only on the Predefined Type, you see the below message. In this case, an attempt is made to attach a search help to the field Ename. |
|  |
| 1. Can a search help be based on field based on data element? |
| Yes |
| 1. Can a search help be based on field based on domain?   Yes |
| 1. Can the selection method for a search help be a database table? |
| Yes |
| 1. Can the selection method for a search help be a view? Which type of view?   Yes. Database View(Inner Join), Help View(Outer Join).   1. What factors are considered in Data Dictionary Technical settings?   Data Class  Size Category  Buffering   1. What does the data class indicate?   Each data class corresponds to a physical area in which all the tables assigned to this data class are stored. If you choose the data class correctly, your table is automatically assigned to the correct area (table space).   1. What do you mean by buffers? How do buffers increase the system performance?   Buffering is an important in client/server environments, as it takes considerably longer to access a table with the network than it does to access a table that is buffered locally.  You use table buffering to improve performance when accessing the data records contained in the table. The table buffers reside locally on each application server in the system. The data of buffered tables can be accessed directly from the buffer of the application server. This avoids the time-consuming process of accessing the database.   1. What are the buffering types? 2. Single Record Buffering 3. Generic Areas Buffered 4. Fully Buffered 5. What is Full buffering? |
| You use full buffering to load all the records of the table into the buffer when one record of the table is read. With full buffering, either the entire table is in the buffer, or the table is not in the buffer at all.   1. When is full buffering used?   Full buffering is more suitable for smaller tables that are accessed frequently. This is because only one database access is necessary to load such a table with full buffering  Tables that are best suited to full buffering are rarely written and read frequently.  Full buffering is recommended in the following cases:  • Small tables such as customizing tables that are mainly read.  • Larger Tables where large numbers of records are frequently read and rarely changed. But if these read accesses can be formulated with a selective WHERE condition using a database index, then it is recommended not to use buffering.  • Tables for which read accesses to non-existent records are frequently submitted. Since all the table records reside in the buffer, the system can determine directly if a record exists or not in the buffer   1. What is Single Record Buffering?   You use single-record buffering to load into the buffer only the records that are actually read. Single-record buffering requires less storage space in the buffer than generic and full buffering.   1. When is single record buffering used?   Single record buffering is recommended for large tables from which single rows are often read using **SELECT SINGLE.**   1. What is a primary Index? When is it created?   The primary index contains the key fields of the table. The primary index is automatically created in the database when the table is activated.   1. Who decides whether to use primary index or not?   The database optimizer decides. The developer or DBA cannot decide whether to use a primary index or not.   1. What is a secondary index?   The secondary index contains of the non-key fields of the table. |
| Secondary Index is created for fields if they are used extensively in search. |

1. Who decides whether to use secondary index or not?

The database optimizer decides. The developer or DBA cannot decide whether to use a secondary index or not.

1. What are lock objects in SAP ABAP?

These types of objects are used for locking the access to database records in table. This mechanism is used to enforce data integrity that is two users cannot update the same data at the same time.

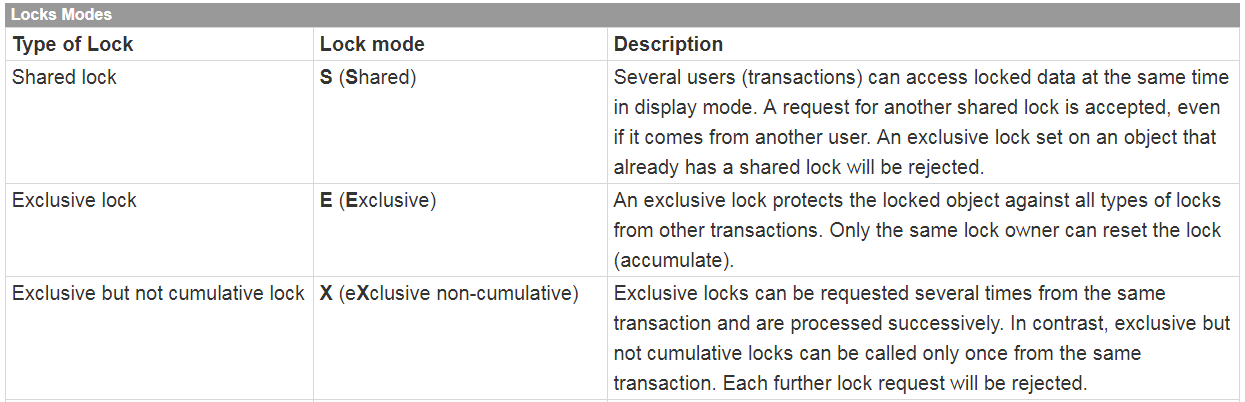
1. Is transparent table created in underlying Database?

Yes.

1. Is structure created in underlying Database?

No

1. What is a lock object?
2. What are the types of lock?



1. What is Exclusive but not cumulative lock?
2. In Internal table, what is a hashed table?

**Hashed table** follows the hash algorithm. Here the declaration of key is must and also the key must be unique. Hence, there will be no duplicate entry in the hashed table. We can access records only by the key. Data can be inserted here by INSERT statement. Hashed tables are used when the internal table contains huge volume of data. Using this type of table is good when you have large data-sets with a lot of reads, but comparatively few writes.

1. What happens when you insert such a record in a sorted table which violates the sort sequence? Syntax error? Runtime error?

Answer: Runtime Error.

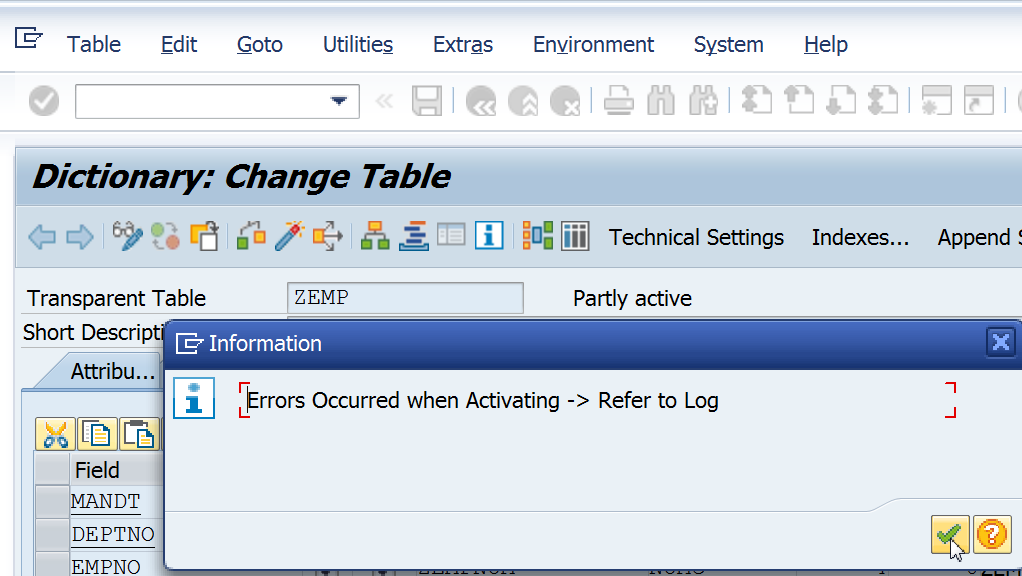
1. What is a database utility used for?

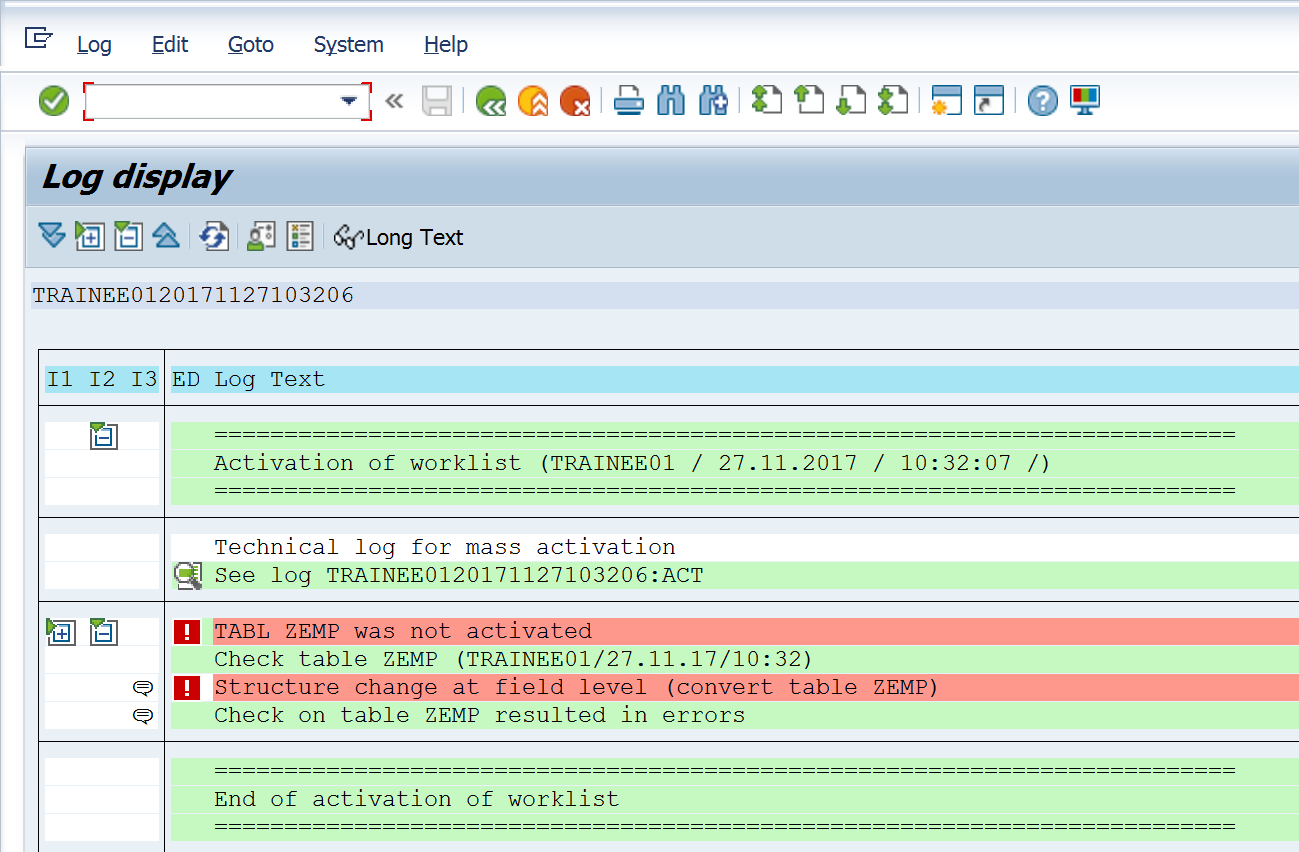
Consider the following requirement.

You have created a ztable with 5 fields. This table is activated and being used.

Now, there is a need to delete some field or change the primary key. If you do this i.e change the primary key and activate the table, an error will be shown during activation. This is because an attempt is being made to change the underlying table in the database. An attempt is made to alter a table. This alter is not permitted by Database.

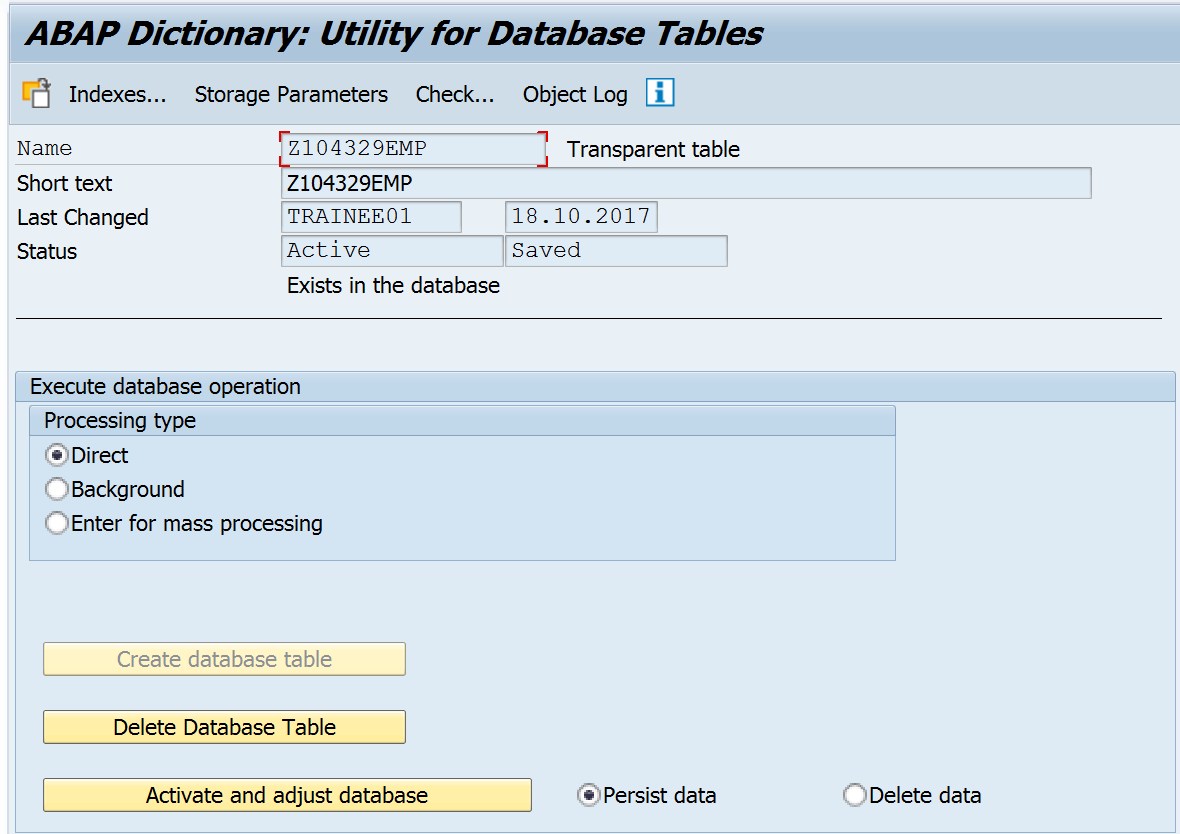
You would see an error as below.





Hence, Database utility will have to be used.

For this we go to SE14 and there is one button 'Activate and Adjust Table'. On clicking this Button the changes of key fields are reflected successfully.



1. **Why we need to use Table Maintenance Generator?**

In production systems, the end-users generally won't be having access to SE11 or SE16 transaction code. So, if they need to maintain this table they need an alternate way to do so.

The benefit of Table Maintenance Generator is that the restriction can be put on each field column and gives end-users to change or modify multiple entries at the same time.

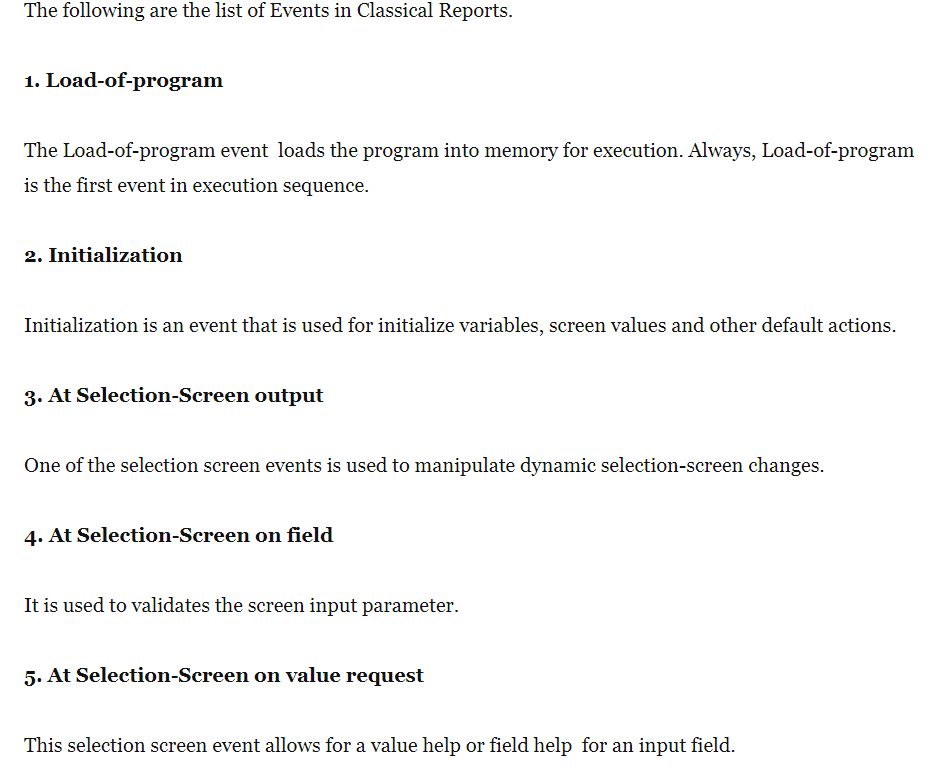
Table maintenance is required to maintain table Via Transaction code - SM30 and SM31.

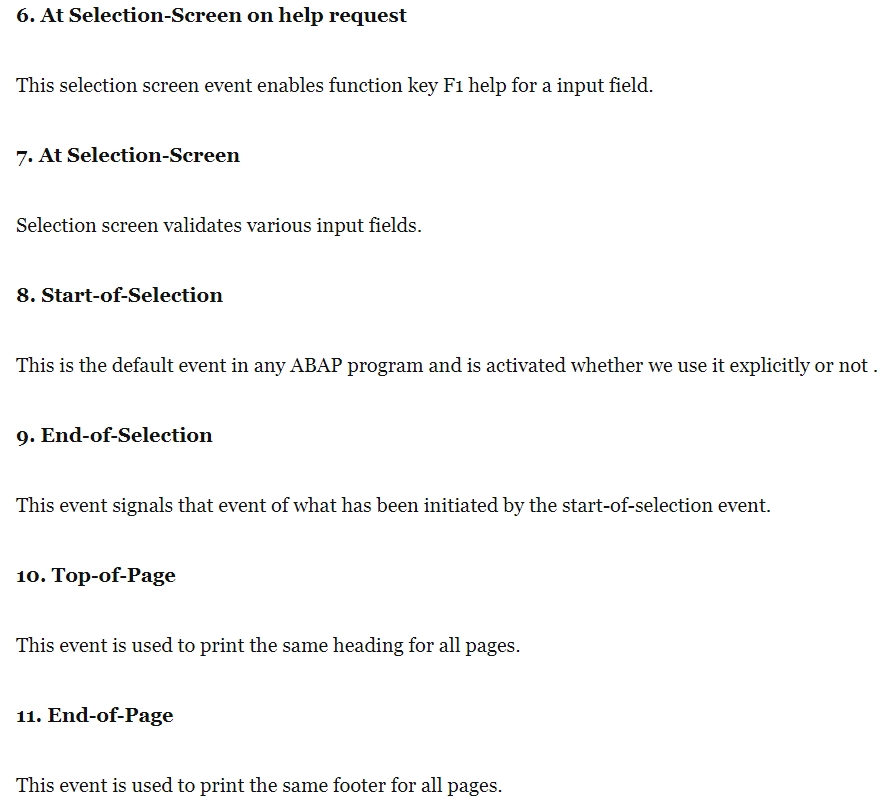
1. **What are the different Maintenance type?**

There are two different Maintenance type - One Step and Two Step method.   
**1. One Step Method -**In one step method there is only one overview screen. In single step over view screen number is compulsory but single screen is not required. In this case single screen number will get ignored. You can enter any screen number other than 1000, which is reserved for selection screen. In One Step Method, you will be able to see and maintain only through overview screen. 

**2. Two Step Method -**In two step method there is two screens. Over View Screen and Single Screen (Detail Screen). Here both the screen (Overview and Single) number is required to enter. In this the overview screen contains only the key fields and single screen contains all the fields.

1. What are the events in Classical Reporting?





1. In which event do you validate the select-options?

At Selection-Screen

At Selection-Screen on Field

1. How to calculate subtotal in classical events?

These are calculated using following control break statements of Internal Tables.

* at first / endat
* at last / endat
* at new / endat
* at end of / endat
* sum
* on change of / endon

1. What are the events in Module Pool Programming?

PBO event

This event is triggered before the screen is displayed. The processing of screen before the display of screen is done in this event. For example, filling in default values in the screen fields.

PAI event

This event is responsible for processing of screen after the user enters the data and clicks the pushbutton. The processing of screen can include displaying another screen, or just displaying list or quitting the transaction itself and many more things. Usually it is displaying another screen. These operations can be carried out in the PAI event. OKCODE plays an important role in this operation.

POV event

Process on value request is triggered when the user clicks F4 key. You can handle this event when the user presses F4 key by writing code for the same in module pool program. Normally when the user presses F4, list of possible values is displayed. The standard list produced by system is adequate for applications you develop yourself. However, you can also have the option of setting up your own documentation and lists of possible values that are more detailed.

POH event

Normally when the user places the cursor on the field and presses F1 function key, the system displays its own Help for that field. You can add your own functionality to the Help button by writing code for the same in the POH event.

1. What is the event used to navigate from basic list to secondary list?

At line-selection

At user-command

At PF Status

1. What does screen-active = 0 imply?
2. What is a structure?
3. Does a structure store data?
4. What is a view?
5. Does a view store data?
6. What is subroutine? Why do you use it?
7. What is a function module?
8. What is the difference between subroutine and function module?
9. Can a function module exist without a function group?
10. What Tcode is used to create Function Module?
11. Is it necessary to create a Function group before creating a function module?
12. Is it necessary to create a Function group before creating a subroutine?
13. What is the meaning of Pass By Value in a subroutine?
14. What is the meaning of Pass By reference in a subroutine?
15. How do you pass a parameter by Value in a subroutine?
16. How do you pass a parameter by Reference in a subroutine?
17. What is the addition ‘using’ used for in a subroutine?
18. What is the addition ‘Changing’ used for in a subroutine?
19. You have defined a variable in a subroutine. Is this variable available to other subroutines defined in the same program?
20. You have defined a variable in a Function Module. It this variable available to other

subroutines/ Function Module defined in the same Function Group?

1. What is At Selection screen output used for?
2. Difference between Data Element and Domain.
3. What is the difference between parameter and select options?
4. What is the structure of Select options?
5. What is the difference between view and table?
6. Difference between Update and Modify statement?
7. Difference between If and Check statement?
8. What is a GUI status?
9. What is the sequence of events in Classical report?
10. What event is used for Validation?
11. What is the use of event At Selection screen?
12. What is the use of event At Selection screen output?
13. In the classical events which event is equivalent to PBO and PAI of MPP?
14. When is the TOP-OF-PAGE event triggered?
15. What are interactive reporting events?
16. How do we achieve interactive reporting using the FM REUSE\_ALV\_GRID\_DISPLAY?

Like in classical event it is At Line Selection

1. What are control break events in internal tables?
2. What is difference between value request and help request?
3. What is the use of TMG?
4. What is SM30? What will you see in SM30?

We see maintenance view for that table.

1. I have a requirement to validate on screen. What event will be used for?
2. Name few statements used to work on Data in Internal table. i.e Append like Append what are the other statements?
3. What is the difference between inner join and left outer join?
4. What is the reason for using CDS views?
5. What are the performance tuning techniques that you would use in your code to optimize?
6. What is the difference between if and case?
7. What is index in a database table?