

Report writing in SQL

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For writing a report we need to create an editor file ! nano file name .SQL

T title "Salary report"

B title "end of report"

Ex:- select emp-name from emp

union
select customer-name from customer

NOTE:- It will generate a list of all names in the emp table and customer table

NOTE:- To show rows that exists in the 1st query but not in the second query.

Ex:- select emp-name from emp

minus

select customer-name from customer;

NOTE:- Returns all distinct rows returned by both queries.

Ex:- select emp-name from emp

intersect

select customer-name from customer;

NOTE:- The corresponding columns must have equivalent data type. The column names can be different along with the size.

View :- Views are logical table of data extracted from existing table. It can be queried just like a table but does not require disk space.

Use :- i) It can be used to hide sensitive columns.

ii) It can be used to hide complex queries involving multiple tables.

iii) Views created with a check option prevents the updating of other rows and columns.

To Create View :- CREATE VIEW VIEW_NAME
AS SELECT COLUMN 1, COLUMN 2
FROM TABLENAME;

Display the View name :- SELECT * FROM VIEW NAME
desc view name;
Drop view name;

Note :- The order by clause cannot be used to create a view statement.

SQL Plus inputs and Variables

SQL plus allows interactive input using the accept statement and the prompt statement.

Example :- prompt Enter Roll Number
\$rn;
Accept

Example :- Prompt enter salary
Accept sal no.
select * from salary
where basic > \$sal;

PL / SQLDisadvantages of SQL

- 1) It does not have any procedural capabilities.
- 2) It does not provide the programming technique of conditional checking, looping and branching.
- 3) SQL statements are passed to oracle engine one at a time. Each time an SQL statement is executed a call is made to the engine's resources. In multiuser environment it decreases the speed of data processing.
- 4) If any error occurs the oracle engine displays its own message. It has no facility for programming handling errors that arises during manipulation of data.

Advantages of PL/SQL

- 1) Calculation can be done efficiently without oracle engine.
 - 2) portable to every environment.
 - 3) can store intermediate results of a query for later processing.
- PL/SQL, Code blocks Diagram Representation,
- i) Declare :- declaration of memory variables constants cursor's etc in PL/SQL.
- ii) Begin :-
- ii) SQL executable statement.
 - ii) PL/SQL executable statement.
- iii) Exception :- PL/SQL code to handle errors that may arises during the execution of code block.
- iv) end :-
- v) Semicolon :-

PL/SQL Block Code

Oracle Engine

Declare (Procedural statement); \leftrightarrow PL/SQL Engine

Begin (Procedural Statement);
SQL Statements;

exception PL/SQL Statements; \rightarrow SQL Statement

end; \leftrightarrow executor

Example of a PL/SQL CODE

Set server output on

Prompt Enter emp-no

Accept n

Declare

DName emp.emp-name%type;

DBasic emp.Basic%type;

Ddesig emp.desig%type;

Begin

Select emp.name, basic, desig

into Dname, DBasic, Ddesig

from emp

where emp-no = \$n,

DBMS_OUTPUT.PUT-LIKE('NAME:'//DName);

DBMS_OUTPUT.PUT-LIKE('Salary:' DBasic);

DBMS_OUTPUT.PUT-LIKE('Designation' Ddesig);

End;

Set server output off.

'%' type (Data Type)

It indicates a variable or a constant to have the same data type as that a previously defined variable or a column in a table.

Select Into :-

It used to retrieve single row from a table for processing

Select <V₁> ,<V₂> into
<DV₁> ,<DV₂> from

table name where <query>;

V₁, V₂ → columns from the table

DV₁, DV₂ → are variables that are declared in the declare section of the program

This is also called PL/SQL Variables

DBMS_OUTPUT :

It is a system packages. It includes a number of procedures and functions that accumulate information in buffer so that it can be retrieved. It is also used to display message to the user

PUT_LIKE :-

It is procedure. It is used to display a message and also known as message string. It accepts a single parameter of character datatype.

2nd Example of PL/SQL CODE :-

Declare

pi constant number (4,2) := 3.14;
radius number (5);
area number (14,2);

Begin

radius := 3;

while radius <= 7

loop

area := pi * power (radius, 2);

Insert into Areas

values (radius, area);

radius := radius + 1;

end loop;

PL/SQL tables :-

Objects of type tables are called PL/SQL tables which are modelled on (but not the same as) database tables.

PL/SQL tables use a primary key table to give the query like access of the rows.

Declaring PL/SQL table

It is declared into two steps

- 1) Define a table type,
- 2) Declare PL/SQL table of that type. If the declarative part of any block, subprogram or package

Example:- Type TBL is table of
emp. emp-name % type
Identify binary - integer;

Exception are error situation, where a program is executed certain errors are automatically recognized by oracle. Those are called system exception and same error situations must be recognized by the program itself. Those are called user-defined exception. User defined exceptions are declared in the declaration section of the program and is defined in exception part of the program. In the declare part,

Declare.

exp exception;

when Exp them

acts on;