

SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:3670018755309041::NO::

ORACLE Application Express

Welcome RAHUL (Logout)

HomeApplication BuilderSQL WorkshopTeam DevelopmentAdministration

Home > SQL Workshop > SQL Commands

Schema UNIVERSITY

AutocommitRows 10SaveRun

```
declare
r number;
pi constant number:=3.14;
area number;
begin
r:=1;
area:=pi*power(r,2);
dbms_output.put_line(area);
end;
```

ResultsExplainDescribeSaved SQLHistory

12.56

Statement processed.

0.00 seconds

Application Express 4.0.2 00.09

Workspace: UNIVERSITY User: RAHUL

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SQL Commands

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Home > SQL Workshop > SQL Commands

Schema UNIVERSITY

AutocommitRows10SaveRun

```
declare
a number;
begin
a:=2;
DBMS_OUTPUT.PUT_LINE('a = ' || a);
end;
```

ResultsExplainDescribeSaved SQLHistory

a = 2

Statement processed.

0.00 seconds

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Home > SQL Workshop > SQL Commands

Schema UNIVERSITY

AutocommitRows 10SaveRun

```
declare
a number;
begin
a:=a;
dbms_output.put_line('The fifth power of ' || a || ' is ' || power(a,5));
end;
```

ResultsExplainDescribeSaved SQLHistory

The fifth power of 2 is 32

Statement processed.

0.00 seconds

Application Express 4.0.2 00.09

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Class Assignment - 7

SQL Commands

Create Employee Table & Max S

+

127.0.0.1:8080/apex/f?p=4500:1003:1109928941380376::NO::

HomeApplication BuilderSQL WorkshopTeam DevelopmentAdministration

Home > SQL Workshop > SQL CommandsSchema: HA-7

☐ AutocommitRows: 10SaveRun

```
declare
type COMPLEXNUMBER is record(
  realpart number,
  imaginarypart number
);
num1 COMPLEXNUMBER;
num2 COMPLEXNUMBER;
result COMPLEXNUMBER;
begin
  num1.realpart:=3;
  num2.realpart:=4;
  num1.imaginarypart:=2;
  num2.imaginarypart:=5;

  result.realpart:=num1.realpart+num2.realpart;
  result.imaginarypart:=num1.imaginarypart+num2.imaginarypart;
  dbms_output.put_line('result = '||result.realpart||' + i'||result.imaginarypart);
end;
```

ResultsExplainDescribeSaved SQLHistory

result =7+ i7

Statement processed.

0.00 seconds

Application Express 4.0.2.00.09

Workspace: HA-7 User: SYSTEMLanguage: en | Copyright © 1999, 2010, Oracle. All rights reserved.

21°C Clear

Search

ENG IN

20:43

26-10-2023

10

Class Assignment - 7

SQL Commands

Create Employee Table & Max S...

+

127.0.0.1:8080/apex/?p=4500:1003:1109928941380376::NO::

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Home > SQL Workshop > SQL CommandsSchema HA-7

☐ AutocommitRows 10SaveRun

```
DECLARE
  "select" NUMBER(10);
BEGIN
  "select" := 42;
  DBMS_OUTPUT.PUT_LINE('Value of "select": ' || "select");
END;
/
```

ResultsExplainDescribeSaved SQLHistory

Value of "select": 42
Statement processed.
0.01 seconds

Workspace: HA-7 User: SYSTEMApplication Express 4.0.2.00.09
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21°C Clear20:4226-10-2023

Class Assignment - 7

SQL Commands

Create Employee Table & Max S

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HomeApplication BuilderSQL WorkshopTeam DevelopmentAdministration

HomeSQL WorkshopSQL CommandsSchema: HA-7Help

☐ AutocommitRows: 10SaveRun

```
DECLARE
  "MyIdentifier" NUMBER(10); -- Quoted identifier
  MyIdentifier NUMBER(10); -- Unquoted identifier
BEGIN
  "MyIdentifier" := 42;
  MyIdentifier := 10;
  DBMS_OUTPUT.PUT_LINE('"'MyIdentifier" (quoted) has a different scope than MyIdentifier (unquoted).');
  DBMS_OUTPUT.PUT_LINE('Value of "MyIdentifier": ' || "MyIdentifier");
  DBMS_OUTPUT.PUT_LINE('Value of MyIdentifier: ' || MyIdentifier);
END;
/
```

ResultsExplainDescribeSaved SQLHistory

"MyIdentifier" (quoted) has a different scope than MyIdentifier (unquoted).
Value of "MyIdentifier": 42
Value of MyIdentifier: 10

Statement processed.

0.01 seconds

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21°C Clear

Search

ENG IN20:4626-10-2023

SQL Commands

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HomeApplication BuilderSQL WorkshopTeam DevelopmentAdministration

Home > SQL Workshop > SQL Commands

Schema UNIVERSITY

AutocommitRows10SaveRun

```
declare
a number:=10;
b number:=20;
area number;
begin
area:=0;
begin
area:= a*b;
end;
DBMS_OUTPUT.PUT_LINE('Area of the rectangle is: ' || area);
end;
```

ResultsExplainDescribeSaved SQLHistory

Area of the rectangle is: 200

Statement processed.

0.00 seconds

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①

MySQL

It is a database structural Query language.

It is declarative language.

SQL does not provide a error and exception handling. It can be embedded in SQL.

It is a data oriented language.

PL/SQL

It is a database programming language using SQL.

It is procedural language.

It can't be embedded in SQL.

It is a application oriented language.

② % Row type

- It is specific to table or cursor.
- It automatically creates a record that have the same structure as a row in the table or the result of a cursor row.
- It is often used when you want to define a record that mirror the structure of a table cursor.

Eg:-

Declare

cursor emp-cursor is

Select * from employee where id = 101;
emp-rec emp-cursor % Rowtype;

Begin

open emp-cursor;


```

Fetch emp-cursor emp-rec;

DBMS.Output.putLine (emp-rec.id);
DBMS.Output.putLine (emp-rec.employee-name);
close emp-cursor;
end;

```

TYPE RECORD:

- Type record is more general purpose and is not tied to tables or cursors specially.
- It allows you to define with custom tied a direct relationship to a table.

Eg:-

Declare

```

Type employeeRecord is Record (
    emp-id number;
    emp-name varchar(50);
);

```

Begin

```

emp-rec.emp-id := 101;
emp-rec.emp-name = "John Doe";
DBMS.Output.putLine (emp-rec.emp-id);
end;

```

(B) For loop

```
Declare  
Begin  
For i in 1...5 loop  
    # operation to be performed  
end loop;  
end;
```

While loop

```
Declare  
counter number := 1;  
Begin  
    while counter <= 5 loop  
        Dbms_output.put_line(counter);  
        counter := counter + 1  
    end loop;  
end;
```

Do while

```
Declare  
c Number := 1;  
Begin  
    loop  
        # operation to be performed  
    end when c > 5;  
end loop;  
end;
```

SQL Commands

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Home

Application Builder

SQL Workshop

Team Development

Administration

Home > SQL Workshop > SQL Commands

Schema UNIVERSITY

Autocommit Rows 10 Save Run

```
declare
a number;
fac number:=1;
begin
a:=1;
for i in 1..a loop
fac:=fac*i;
end loop;
DBMS_OUTPUT.PUT_LINE('The factorial of ' || a || ' is: ' || fac);
end;
```

Results

Explain

Describe

Saved SQL

History

The factorial of 5 is: 120

Statement processed.

0.00 seconds

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The image is a screenshot of a web browser displaying the Oracle Application Express (APEX) interface. The browser's address bar shows the URL: 127.0.0.1:8080/apex/?p=4500:1003:3670018755309041::NO:: The APEX page title is "ORACLE Application Express". The top navigation bar includes links for Home, Application Builder, SQL Workshop, Team Development, and Administration. The "SQL Workshop" link is active. Below the navigation bar, the breadcrumb trail shows "Home > SQL Workshop > SQL Commands". The "Schema" dropdown is set to "UNIVERSITY". The "Autocommit" checkbox is checked, and the "Rows" dropdown is set to "10". The "Save" and "Run" buttons are visible. The main content area contains a PL/SQL script:

```
DECLARE
  max_salary NUMBER;
BEGIN
  -- Retrieve max salary
  SELECT MAX(salary)
  INTO max_salary
  FROM emp;
  -- Display the result
  DBMS_OUTPUT.PUT_LINE('The maximum salary in the emp table is: ' || max_salary);
END;
```

 The bottom of the interface shows the status bar with "Workspace: UNIVERSITY User: RAHUL" and "Application Express 4.0.2.00.09". The system tray at the bottom of the screen shows the date and time as "26-10-2023 21:56".

SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:3670018755309041::NO::

ORACLE Application Express

Welcome RAHUL (Logout)

HomeApplication BuilderSQL WorkshopTeam DevelopmentAdministration

Home > SQL Workshop > SQL Commands

Schema UNIVERSITY

Autocommit Rows 10 Save Run

```
CREATE TABLE student (  
  sid NUMBER PRIMARY KEY,  
  fname VARCHAR2(50),  
  lname VARCHAR2(50),  
  age NUMBER,  
  gender VARCHAR2(10),  
  cgpa NUMBER  
);
```

Results Explain Describe Saved SQL History

Table created.

0.01 seconds

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Welcome RAHUL (Logout)

HomeApplication BuilderSQL WorkshopTeam DevelopmentAdministration

Home > SQL Workshop > SQL Commands

Schema UNIVERSITY

AutocommitRows10SaveRun

```
begin
INSERT INTO student VALUES (1, 'John', 'Doe', 22, 'Male', 3.8);
INSERT INTO student VALUES (2, 'Jane', 'Smith', 24, 'Female', 3.9);
INSERT INTO student VALUES (3, 'Alex', 'Johnson', 20, 'Male', 3.5);
INSERT INTO student VALUES (4, 'Emily', 'Williams', 26, 'Female', 3.7);
INSERT INTO student VALUES (5, 'Michael', 'Brown', 23, 'Male', 3.6);
INSERT INTO student VALUES (6, 'Sophia', 'Miller', 21, 'Female', 3.8);
INSERT INTO student VALUES (7, 'Daniel', 'Davis', 25, 'Male', 3.9);
INSERT INTO student VALUES (8, 'Olivia', 'Taylor', 22, 'Female', 4.0);
INSERT INTO student VALUES (9, 'William', 'Moore', 24, 'Male', 3.7);
INSERT INTO student VALUES (10, 'Emma', 'Anderson', 23, 'Female', 3.6);
end;
```

ResultsExplainDescribeSaved SQLHistory

Statement processed.

0.00 seconds

Application Express 4.0.2 00.09

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Welcome RAHUL (Logout)

HomeApplication BuilderSQL WorkshopTeam DevelopmentAdministration

Home > SQL Workshop > SQL Commands

Schema UNIVERSITY

AutocommitRows 10SaveRun

```
-- Find the student with the highest cgpa and display details
DECLARE
    max_cgpa NUMBER;
    max_cgpa_sid NUMBER;
    max_cgpa_row student%ROWTYPE;
BEGIN
    -- Find the highest cgpa
    SELECT MAX(cgpa), MAX(sid) INTO max_cgpa, max_cgpa_sid FROM student;

    -- Fetch details of the student with the highest cgpa
    SELECT * INTO max_cgpa_row
    FROM student
    WHERE sid = max_cgpa_sid;

    -- Display details of the student with the highest cgpa
    DBMS_OUTPUT.PUT_LINE('Student with the highest CGPA:');
    DBMS_OUTPUT.PUT_LINE('SID: ' || max_cgpa_row.sid);
    DBMS_OUTPUT.PUT_LINE('First Name: ' || max_cgpa_row.fname);
    DBMS_OUTPUT.PUT_LINE('Last Name: ' || max_cgpa_row.lname);
    DBMS_OUTPUT.PUT_LINE('Age: ' || max_cgpa_row.age);
    DBMS_OUTPUT.PUT_LINE('Gender: ' || max_cgpa_row.gender);
    DBMS_OUTPUT.PUT_LINE('CGPA: ' || max_cgpa_row.cgpa);
END;
```

ResultsExplainDescribeSaved SQLHistory

Student with the highest CGPA:
SID: 10
First Name: Emma
Last Name: Anderson
Age: 23
Gender: Female
CGPA: 3.6

Statement processed.

0.00 seconds

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