**ADVANCED DBMS LAB**

**CYCLE -2**

**PL/SQL Programs (Trigger, Cursor, Stored Procedures and Functions)**

1. Write a PL/SQL code to accept the text and reverse the given text. Check the text is palindrome or not

**PROGRAM CODE:**

DECLARE

s VARCHAR2(10) :='malayalam';

l VARCHAR2(20);

t VARCHAR2(10);

BEGIN

FOR i IN REVERSE 1..Length(s) LOOP

l :=substr(s, i, 1);

t :=t ||''||l;

END LOOP;

IF t=s THEN

dbms\_output.put\_line(t ||''||' is palindrome');

ELSE

dbms\_output.put\_line(t ||''||' is not palindrome');

END IF;

END;

**OUTPUT:**

****

1. Write a program to read two numbers; If the first no > 2nd no, then swap the numbers; if the first number is an odd number, then find its cube; if first no < 2nd no then raise it to its power; if both the numbers are equal, then find its sqrt.

**PROGRAM CODE:**

DECLARE

a INTEGER :=6;

b INTEGER :=5;

temp INTEGER :=0;

c INTEGER;

d INTEGER :=2;

cube INTEGER;

BEGIN

IF a > b THEN

temp :=a;

a :=b;

b := temp;

DBMS\_OUTPUT.PUT\_LINE('After the swapping the a value is '||a ||' and b value is '||b);

IF MOD(b,2) !=0 THEN

cube :=a \* a \* a;

DBMS\_OUTPUT.PUT\_LINE('cube of a is '||cube);

ELSE

DBMS\_OUTPUT.PUT\_LINE(' first number is odd '||a);

END IF;

ELSIF a < b THEN

c :=a \*\*b;

DBMS\_OUTPUT.PUT\_LINE('power is '||c);

ELSIF a = b THEN

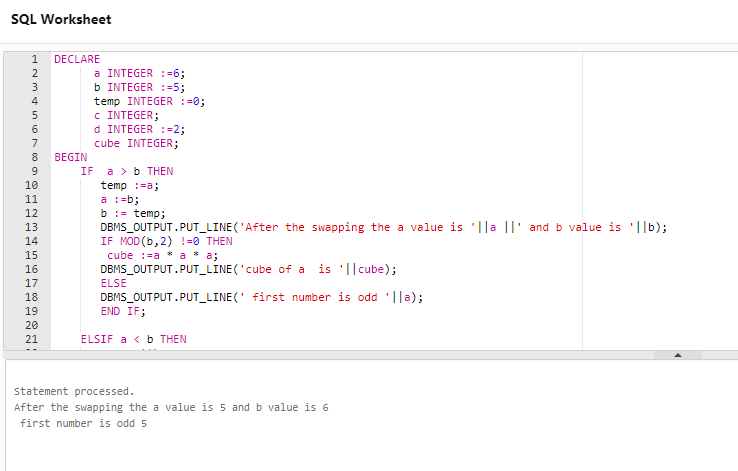
DBMS\_OUTPUT.PUT\_LINE('square root of a is:'||(SQRT(a)));

DBMS\_OUTPUT.PUT\_LINE('square root of b is:'||(SQRT(b)));

END IF;

END;

**OUTPUT:**



1. Write a program to generate first 10 terms of the Fibonacci series.

**PROGRAM CODE:**

DECLARE

t1 NUMBER :=0;

t2 NUMBER :=1;

t3 NUMBER ;

BEGIN

dbms\_output.put\_line(t1);

dbms\_output.put\_line(t2);

for i in 3 ..10 loop

t3 :=t1 + t2;

dbms\_output.put\_line(t3);

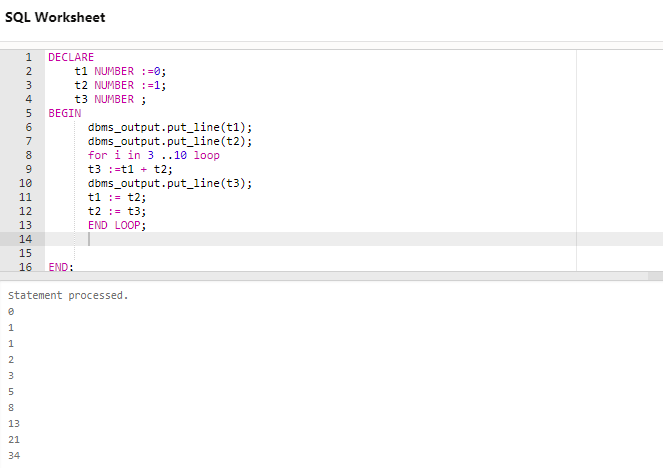
t1 := t2;

t2 := t3;

END LOOP;

END;

**OUTPUT:**

****

1. Write a PL/SQL program to find the salary of an employee in the EMP table (Get the empno from the user). Find the employee drawing minimum salary. If the minimum salary is less than 7500, then give an increment of 15%.Also create an emp %rowtype record. Accept the empno from the user, and display all the information about the employee.

**PROGRAM CODE:**

create table EMP(emp\_no int primary key,emp\_name varchar(20),emp\_post varchar(20),emp\_salary decimal(10,2));

insert into EMP values(101,'arun','MD',50000);

insert into EMP values(102,'ajay','HR',25000);

insert into EMP values(103,'raman','Accountant',15000);

insert into EMP values(104,'ravi','clerk',7000);

insert into EMP values(105,'shivan','peon',5000);

DECLARE

emno EMP.emp\_no%type;

salary EMP.emp\_salary%type;

emp\_rec EMP%rowtype;

BEGIN

emno :=102;

SELECT emp\_salary INTO salary FROM EMP WHERE emp\_no = emno;

IF salary <= 7500 THEN

UPDATE EMP SET emp\_salary=emp\_salary \* 15/100 WHERE emp\_no = emno;

ELSE

DBMS\_OUTPUT.PUT\_LINE ('NO MORE INCREMENT');

END IF;

SELECT \* INTO emp\_rec FROM EMP WHERE emp\_no = emno;

DBMS\_OUTPUT.PUT\_LINE('NAME: '||emp\_rec.emp\_name);

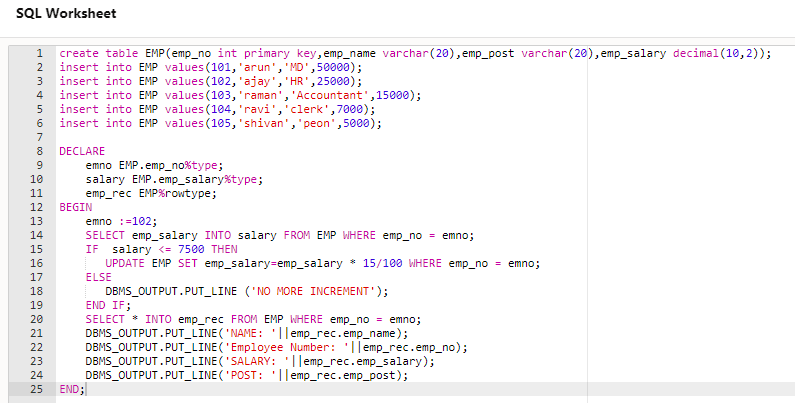
DBMS\_OUTPUT.PUT\_LINE('Employee Number: '||emp\_rec.emp\_no);

DBMS\_OUTPUT.PUT\_LINE('SALARY: '||emp\_rec.emp\_salary);

DBMS\_OUTPUT.PUT\_LINE('POST: '||emp\_rec.emp\_post);

END;

**OUTPUT:**

****

****

1. Write a PL/SQL **function** to find the total strength of students present in different classes of the MCA department using the table Class(ClassId, ClassName, Strength);

**PROGRAM CODE:**

create table class(cls\_id int,cls\_name varchar(20),cls\_std int);

insert into class values(201,'mca',120);

insert into class values(202,'mca',60);

insert into class values(203,'bca',59);

insert into class values(204,'bca',62);

CREATE OR REPLACE FUNCTION total\_std

RETURN NUMBER IS

total NUMBER(5):=0;

BEGIN

SELECT sum(cls\_std) INTO total FROM class WHERE cls\_name='mca';

RETURN total;

END;

insert into class values(205,'msc',62);

DECLARE

c NUMBER(5);

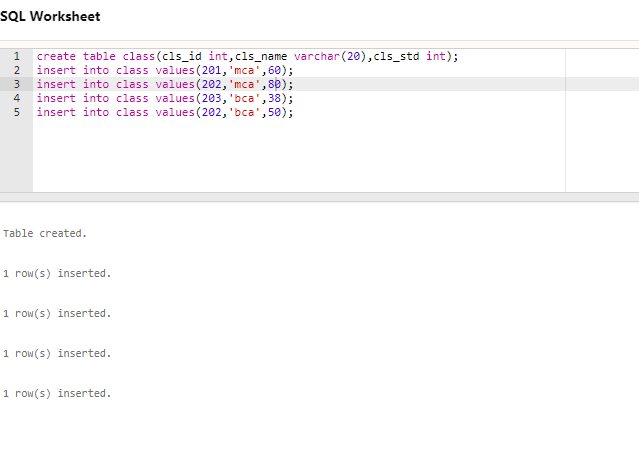
BEGIN

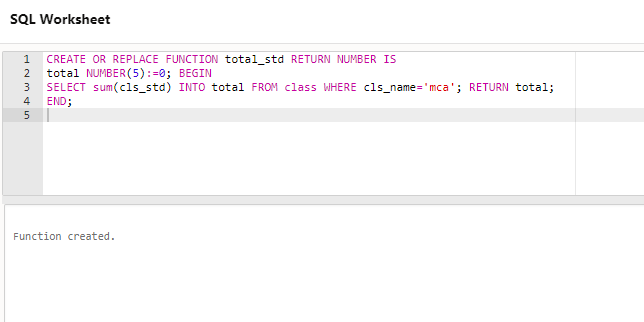
c:=total\_std();

DBMS\_OUTPUT.PUT\_LINE('Total students in MCA department is:'||c);

END;

**OUTPUT:**







1. Write a PL/SQL **procedure** to increase the salary for the specified employee. Using empno in the employee table based on the following criteria: increase the salary by 5% for clerks, 7% for salesman, 10% for analyst and 20 % for manager. Activate using PL/SQL block.

**PROGRAM CODE:**

create table emp(emp\_no int,emp\_name varchar(20),salary int,emp\_dpt varchar(20));

insert into emp values(101,'Kiran',50000,'salesman');

insert into emp values(103,'ajay',70000,'manager');

insert into emp values(102,'Karthik',64000,'clerk');

insert into emp values(104,'arun',68000,'analyst');

CREATE OR REPLACE PROCEDURE increSalary

IS

emp1 emp%rowtype;

sal emp.salary%type;

dpt emp.emp\_dpt%type;

BEGIN

SELECT salary,emp\_dpt INTO sal,dpt FROM emp WHERE emp\_no = 104;

IF dpt ='clerk' THEN

UPDATE emp SET salary = salary+salary\* 5/100 ;

ELSIF dpt = 'salesman' THEN

UPDATE emp SET salary = salary+salary\* 7/100 ;

ELSIF dpt = 'analyst' THEN

UPDATE emp SET salary = salary+salary\* 10/100 ;

ELSIF dpt = 'manager' THEN

UPDATE emp SET salary = salary+salary\* 20/100 ;

ELSE

DBMS\_OUTPUT.PUT\_LINE ('NO INCREMENT');

END IF;

SELECT \* into emp1 FROM emp WHERE emp\_no = 104;

DBMS\_OUTPUT.PUT\_LINE ('Name: '||emp1.emp\_name);

DBMS\_OUTPUT.PUT\_LINE ('employee number: '||emp1.emp\_no);

DBMS\_OUTPUT.PUT\_LINE ('salary: '|| emp1.salary);

DBMS\_OUTPUT.PUT\_LINE ('department: '|| emp1.emp\_dpt);

END;

DECLARE

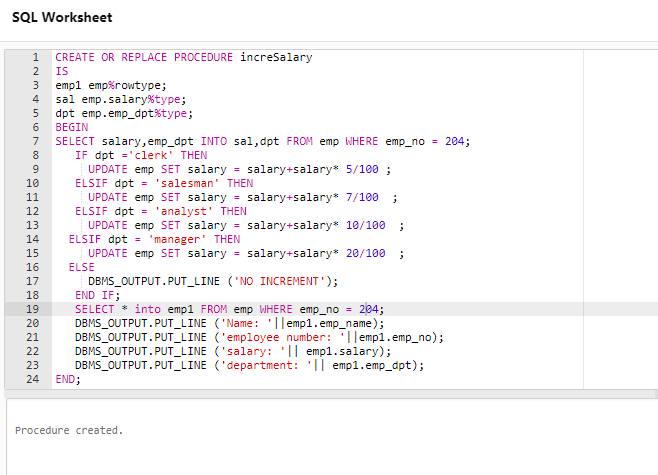
BEGIN

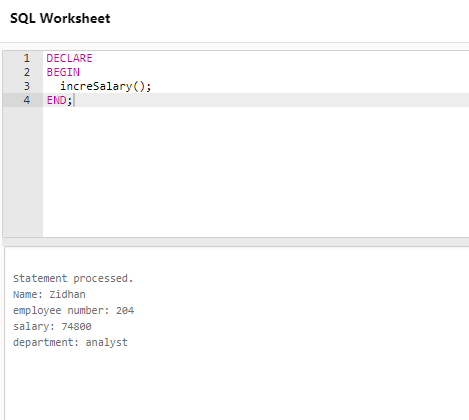
increSalary();

END;

**OUTPUT:**







1. Create a **cursor** to modify the salary of ‘president’ belonging to all departments by 50%

**PROGRAM CODE:**

CREATE TABLE employee(designation varchar(20),department varchar(20),salary number(7));

INSERT INTO employee values('president','Administration',50000);

INSERT INTO employee values('president','Marketing',45000);

INSERT INTO employee values('Manager','Administration',35000);

INSERT INTO employee values('Manager','Marketing',48000);

DECLARE

total\_rows number(2);

totalnorows number;

BEGIN

SELECT count(\*) INTO totalnorows FROM employee;

dbms\_output.put\_line('total no of rows:'||totalnorows);

UPDATE employee SET salary = salary+ salary\*0.5 WHERE designation='president';

IF sql%notfound THEN

dbms\_output.put\_line('no employee salary updated');

ELSIF sql%found THEN total\_rows := sql%rowcount;

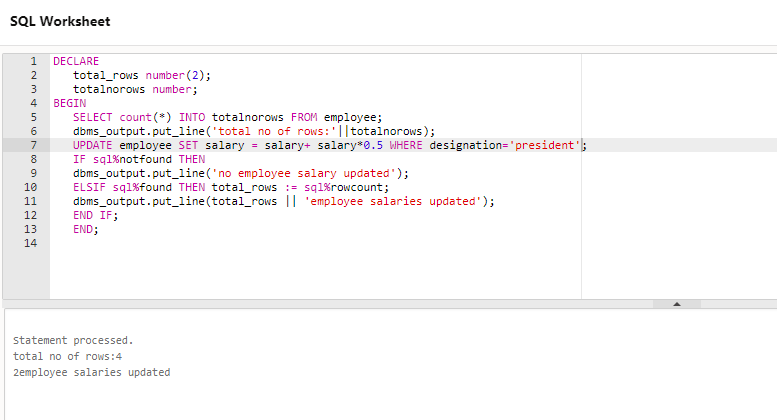
dbms\_output.put\_line(total\_rows || 'employee salaries updated');

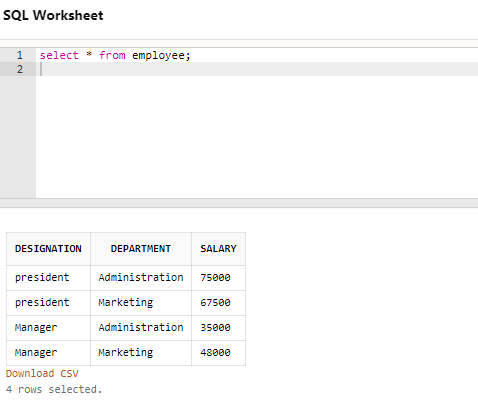
END IF;

END;

**OUTPUT**







1. Write a **cursor** to display list of Male and Female employees whose name starts with S.

**PROGRAM CODE:**

create table emp(emp\_no varchar(20),emp\_name varchar(20),salary int,emp\_dpt varchar(20),gender varchar(10));

insert into emp values('101','arun',50000,'sales','male');

insert into emp values('102','sandeep',6500,'Ac','male');

insert into emp values('103','ammu',7500,'HR','female');

insert into emp values('104','snitha',7500,'Ac','female');

insert into emp values('105','anitha.c',7500,'HR','female');

DECLARE

CURSOR emp1 is SELECT \* FROM emp WHERE emp\_name like ('s%');

emp2 emp1%rowtype;

BEGIN

open emp1;

loop

fetch emp1 into emp2;

exit when emp1%notfound;

dbms\_output.put\_line('employee information: '||' '||emp2.emp\_no || ' ' || emp2.emp\_name || ' ' || emp2.salary|| ' '||emp2.emp\_dpt||' '||emp2.gender);

end loop;

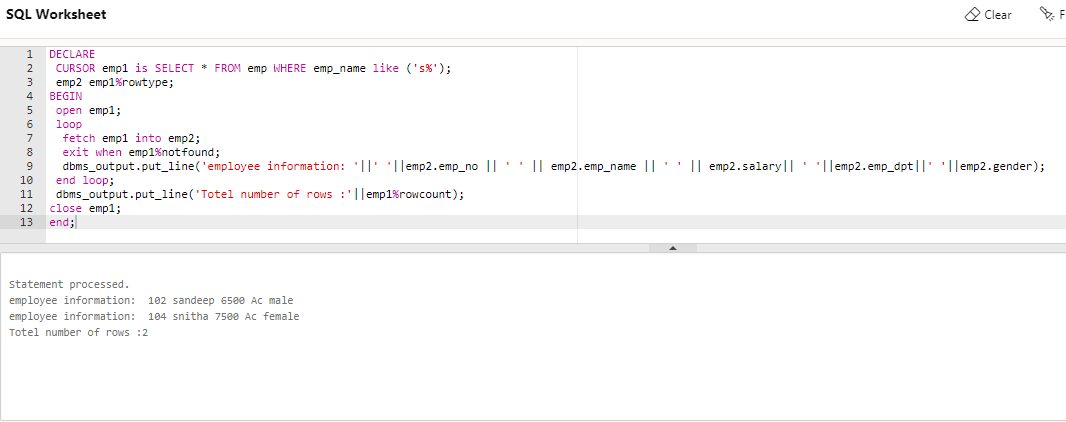
dbms\_output.put\_line('Totel number of rows :'||emp1%rowcount);

close emp1;

end;

**OUTPUT**





1. Create the following tables for Library Information System:Book : (accession-no, title, publisher,publishedDate, author, status). Status could be issued, present in the library, sent for binding, and cannot beissued.Write a **trigger** which sets the status of a book to "cannot be issued", if it ispublished 15 years back.

**PROGRAM CODE:**

create table book(accession\_no int , title varchar(20), publisher varchar(20), publishedDate date, author varchar(20), status varchar(30));

CREATE OR REPLACE TRIGGER search1

before insert ON book

FOR EACH ROW

declare

temp date;

BEGIN

select sysdate into temp from dual;

if inserting then

if :new.publishedDate < add\_months(temp, -180) then

:new.status:='cannot be issued' ;

end if;

end if;

end;

insert into book values( 2511,'abcd','cp','21-jan-2009','john','issued');

insert into book values( 2512,'efhj','cp','30-mar-2010','malik','present in the library');

insert into book values( 2513,'hijk','cp','21-june-2011','sonu','sent for binding');

insert into book values( 2514,'lmno','cp','01-sep-2016','johns','issued');

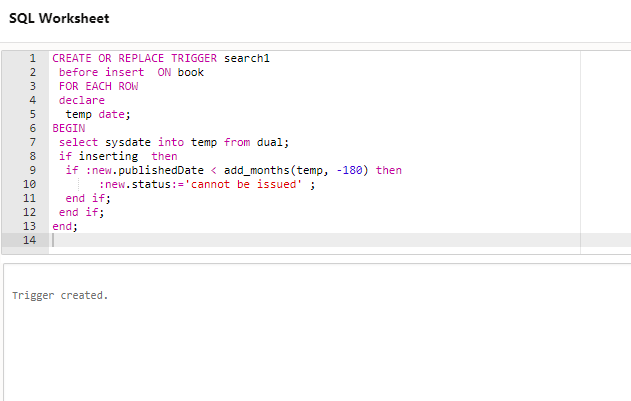
insert into book values( 2515,'pqrst','cp','21-jan-2004','joppy','can not be issued');

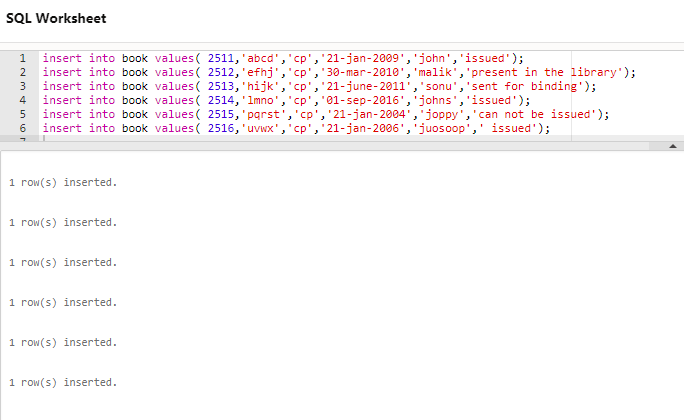
insert into book values( 2516,'uvwx','cp','21-jan-2006','juosoop',' issued');

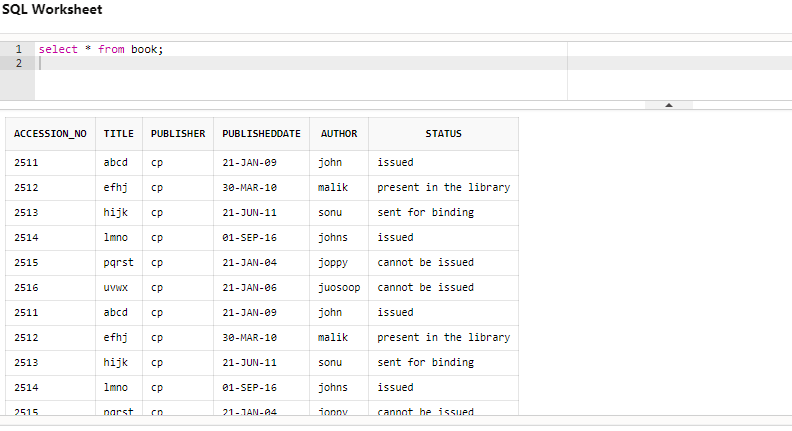
SELECT \* FROM book;

**OUTPUT**

****







1. Create a table Inventory with fields pdtid, pdtname, qty and reorder\_level. Create a **trigger** control on the table for checking whether qty<reorder\_level while inserting values.

**PROGRAM CODE:**

create table inventory(pdtid number primary key, pdtname varchar(10), qty int,reorder\_level number);

CREATE OR REPLACE TRIGGER checking

before insert ON inventory

FOR EACH ROW

declare

BEGIN

if inserting then

if :new.qty > :new.reorder\_level then

:new.reorder\_level:=0;

end if;

end if;

end;

insert into inventory values(101,'pencil',100,150);

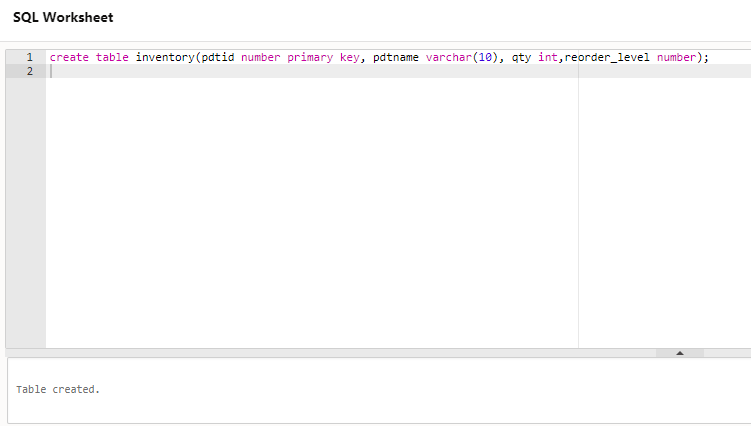
insert into inventory values(112,'tap',50,100);

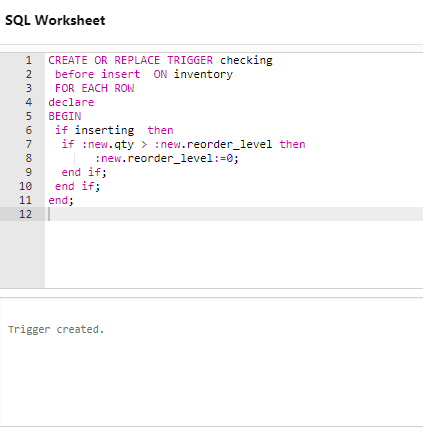
insert into inventory values(121,'marker',200,150);

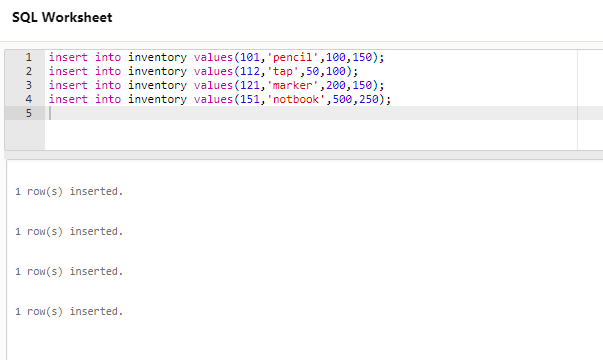
insert into inventory values(151,'notbook',500,250);

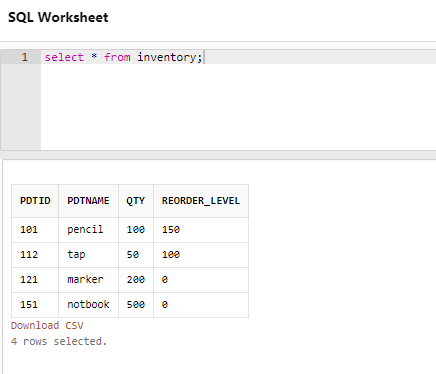
select \* from inventory;

**OUTPUT**

****

****

****

****