22-03-2022

Exp-9 PL or SQL

Aim : To study the various basic PL/SQL operations on the database.

Queries :

1. Write a PL/SQL coding for addition of two numbers.

```
    declare
     a  number: =5;
     b  number: = 10;
      c  number;
    begin
    c: =  a+b;
    dbms_output.put_line ( 'Sum of two numbers :=
' || c);
     end;
/
```

2. Using PL/SQL general syntax for if condition, declare two variables b and c and print the maximum among them.

```
    DECLARE
      b  number;
      c  number;
    BEGIN
     DBMS_OUTPUT. PUT_LINE ( 'Enter a number ')
         b := &NUMBER;
     DBMS_OUTPUT. PUT_LINE ( 'Enter another number')
```

```
        C: =&NUMBER ;

    IF b<c   THEN
      DBMS_OUTPUT.PUT_LINE( "|| c ||' is greatr
      than' || b ||"");

    ELSE
      dbms_output.put_line ("|| b || ' is great
      than' || c||");
    ENDIF
    END;
/
```

3. Using PL/SQL, get a number and print if it is less than 5 or greater than.

```
     DECLARE
        N   NUMBER;
     BEGIN
       dbms_output.put_line( 'Enter a number')
             N: = & NUMBER ;
     IF N>5   THEN
       dbms_output.put_line (" || N ||'
       is greater than 5');
     ELSE
       dbms_output.put_line ("|| N || 'is lessor
       than 5');
     ENDIF;
     END;
/
```

4. Using PL/SQL, general syntax for nested if, get three numbers as input and print which is maximum.

```
DECLARE
   a  NUMBER;
   b  NUMBER;
   c  NUMBER;
BEGIN
dbms_output.Put_line ('Enter 3 numbers : = ');
     a : = & NUMBER;
     b : = & NUMBER,
     c : = & NUMBER

  IF  a>b
      AND  a>c  THEN
      dbms_output.Put_line ('Greatest number is ' || a);

  ELSE
      IF  b>a
          AND  b>c  THEN
          dbms_output.Put_line (' Greatest number is '
          || b );
     ELSE
     dbms_output.Put_line (' Greatest number is '
     || c );
     ENDIF;
  ENDIF;
  END;
/
```

5. Using PQL/SQL general syntax for looping stament, find sum of odd numbers till a given value and print it.

```
    ~~AIM~~
    DECLARE
      num  NUMBER(3);
      sum1 NUMBER(4) := 0;
    ~~BEGIN~~
       ~~i NUMBER(3) := 1;~~

    BEGIN
       ~~WH~~ ~~AIM~~
      dbms_output.Put_line('Enter the number:')
       num:= &NUMBER;
       FOR  i  in  1 .. num  LOOP
         IF  mod(i,2) = 1  THEN
              sum1 = sum1+i;
         ENDIF;
       END LOOP;'
    dbms_output.put_line("Sum of odd numbers:"
    || sum1);
  END;
/
```

6. Using PL/SQL, using general syntax of while loop find the sum of odd numbers till given value and print it.

```
      DECLARE
          num   NUMBER(3);
          sum1  NUMBER(4) := 0;
            i   NUMBER(3) := 1;
      BEGIN
```

```
    WHILE  i <= num  LOOP
        IF  mod(i, 2) = 1  THEN
            sum1 = sum1 + i;
        ENDIF
        i := i+1;
    END LOOP;
    dbms_output.Put_line (' Sum of odd numbers is'
    || sum1);
    END;
/
```

~~7 TRIGGER~~

8. Find factorial of a number using Function.

```
    declau
    n  number(4) := &n;
    fact  number(8);
    begin
      fact =  Factorial(n);
    dbms-outpur.put_line ('Factond of' ||n||  'is'
     ||Fact);
    end;
/
<Main Program>

FUNCTION  Factorial (n  number)
    RETURN  number
    IS
      f  number;
    BEGIN
        IF  n = 0   then
            f := 1;
        ELSE
            f := n * Factorial(n-1)
    ENDIF
```

```
RETURN f;
END FACTORIAL;
```

9. a Write a procedure using positional parameters.

```
CREATE OR REPLACE PROCEDURE Call ( pA varchar2,
pA pB NUMBER, pc Boolean, pD Date) AS
BEGIN
   NULL;
END Call;
/
DECLARE
    V1    varchar2(10);
    ~~V2    varchar2(7~~
    V2    number(7,6);
    V3    boolean;
    V4    Date;
BEGIN
  Call (V1, V2, V3, V4);
END;
/
```

~~7 TRIGGER~~

9. b Write a procedure using notational parameters.

```
set serveroutput on;
Create or replace procedure Grade (n IN
number, grade OUT varchar)as
begin
if   n>90  then
  grade = 'A';
else if  n>80  then
```

```
   grade = 'B";

  else if n >70 then
   grade = 'C';

  else if n > 60 then
    grade = "D";
  else
    grade = "E";
  end if;
  end;
 /
declare
  n number;
 grade varchar(1);
 begin
 n:= 91;
 Grade (n, grade);
 dbms_output.put_line('Grade:' || grade);
 end;
/
Output:
   Grade: A
```

PL-SQL PROCEDURES

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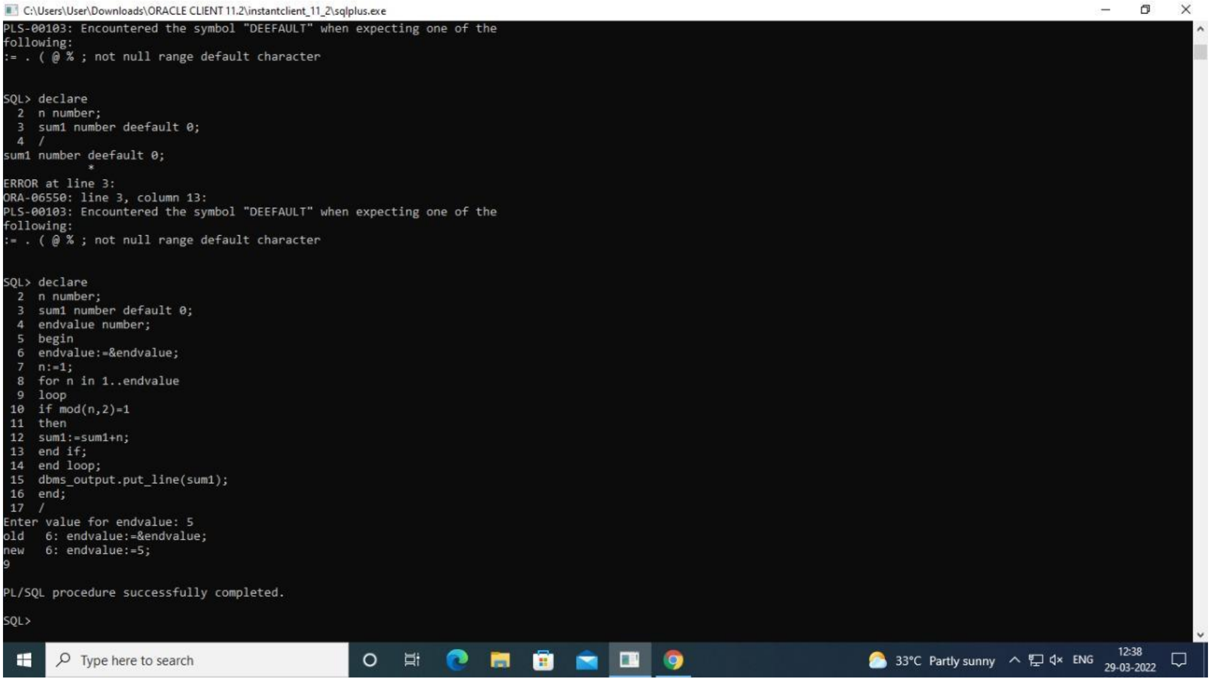

C:\Users\User\Downloads\ORACLE CLIENT 11.2\instantclient_11_2\sqlplus.exe
Type here to search
33°C Partly sunny
ENG
12:38
29-03-2022

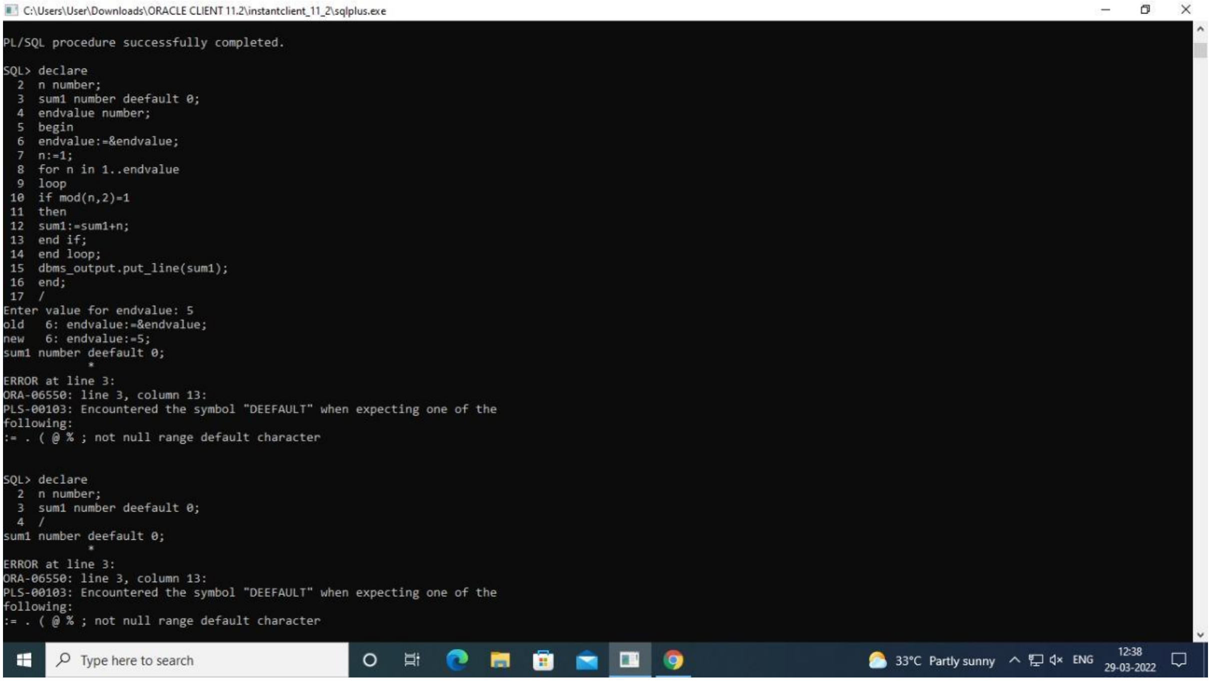
```
PLS-00103: Encountered the symbol "DEEFAULT" when expecting one of the
following:
:= . ( @ % ; not null range default character


SQL> declare
  2  n number;
  3  sum1 number deefault 0;
  4  /
sum1 number deefault 0;
                     *
ERROR at line 3:
ORA-06550: line 3, column 13:
PLS-00103: Encountered the symbol "DEEFAULT" when expecting one of the
following:
:= . ( @ % ; not null range default character


SQL> declare
  2  n number;
  3  sum1 number default 0;
  4  endvalue number;
  5  begin
  6  endvalue:=&endvalue;
  7  n:=1;
  8  for n in 1..endvalue
  9  loop
 10  if mod(n,2)=1
 11  then
 12  sum1:=sum1+n;
 13  end if;
 14  end loop;
 15  dbms_output.put_line(sum1);
 16  end;
 17  /
Enter value for endvalue: 5
old   6: endvalue:=&endvalue;
new   6: endvalue:=5;
9

PL/SQL procedure successfully completed.

SQL>
```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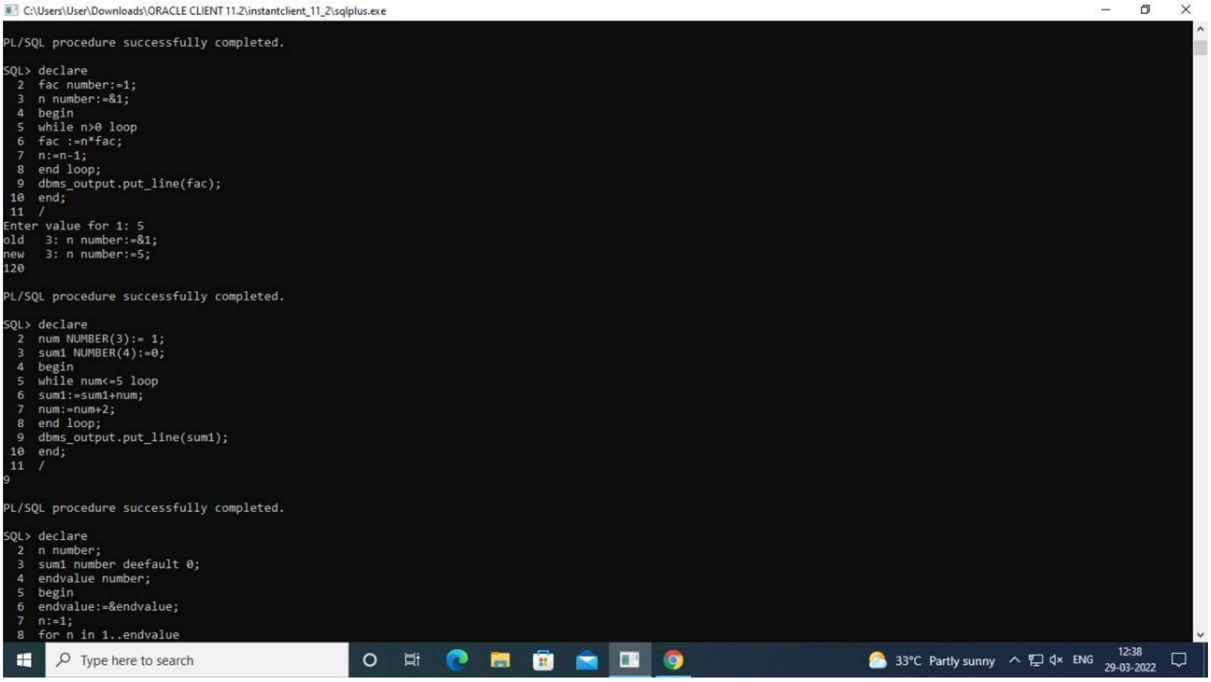
12:38
29-03-2022

```
PL/SQL procedure successfully completed.

SQL> declare
  2  n number;
  3  sum1 number deefault 0;
  4  endvalue number;
  5  begin
  6  endvalue:=&endvalue;
  7  n:=1;
  8  for n in 1..endvalue
  9  loop
 10  if mod(n,2)=1
 11  then
 12  sum1:=sum1+n;
 13  end if;
 14  end loop;
 15  dbms_output.put_line(sum1);
 16  end;
 17  /
Enter value for endvalue: 5
old   6: endvalue:=&endvalue;
new   6: endvalue:=5;
sum1 number deefault 0;
                     *
ERROR at line 3:
ORA-06550: line 3, column 13:
PLS-00103: Encountered the symbol "DEEFAULT" when expecting one of the
following:
:= . ( @ % ; not null range default character


SQL> declare
  2  n number;
  3  sum1 number deefault 0;
  4  /
sum1 number deefault 0;
                     *
ERROR at line 3:
ORA-06550: line 3, column 13:
PLS-00103: Encountered the symbol "DEEFAULT" when expecting one of the
following:
:= . ( @ % ; not null range default character
```



C:\Users\User\Downloads\ORACLE CLIENT 11.2\instantclient_11_2\sqlplus.exe
Type here to search
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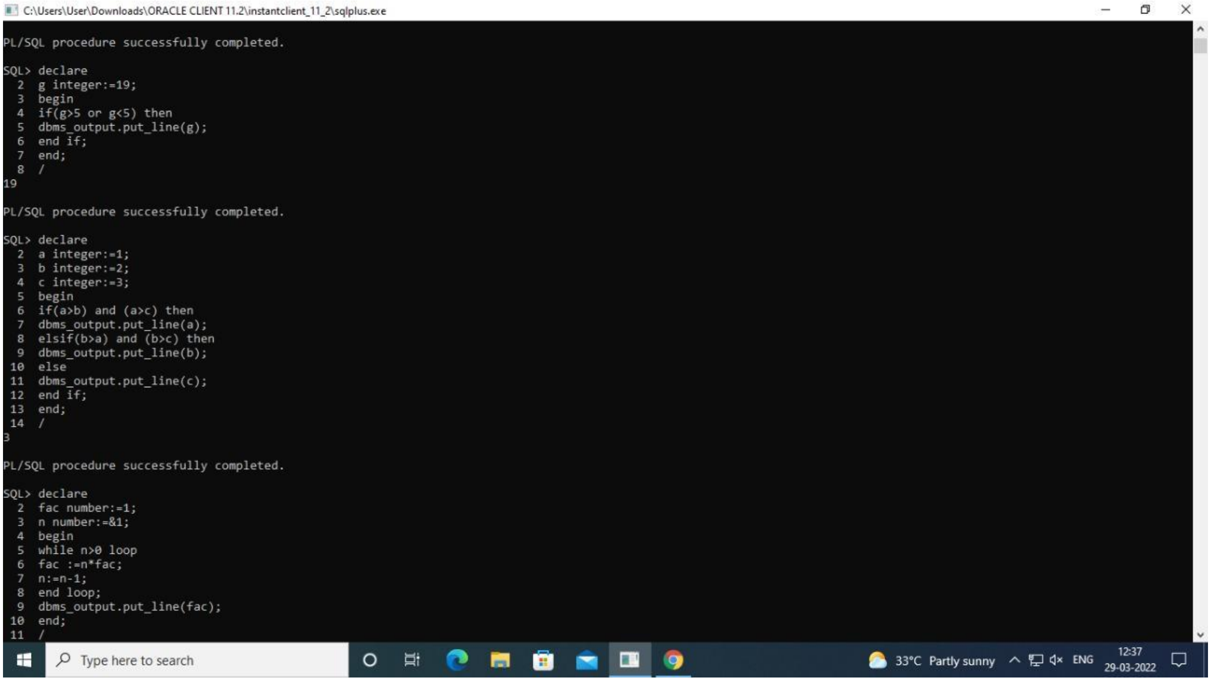
ENG
12:38
29-03-2022

```
PL/SQL procedure successfully completed.

SQL> declare
  2  fac number:=1;
  3  n number:=&1;
  4  begin
  5  while n>0 loop
  6  fac :=n*fac;
  7  n:=n-1;
  8  end loop;
  9  dbms_output.put_line(fac);
 10  end;
 11  /
Enter value for 1: 5
old   3: n number:=&1;
new   3: n number:=5;
120

PL/SQL procedure successfully completed.

SQL> declare
  2  num NUMBER(3):= 1;
  3  sum1 NUMBER(4):=0;
  4  begin
  5  while num<=5 loop
  6  sum1:=sum1+num;
  7  num:=num+2;
  8  end loop;
  9  dbms_output.put_line(sum1);
 10  end;
 11  /
9

PL/SQL procedure successfully completed.

SQL> declare
  2  n number;
  3  sum1 number deefault 0;
  4  endvalue number;
  5  begin
  6  endvalue:=&endvalue;
  7  n:=1;
  8  for n in 1..endvalue
```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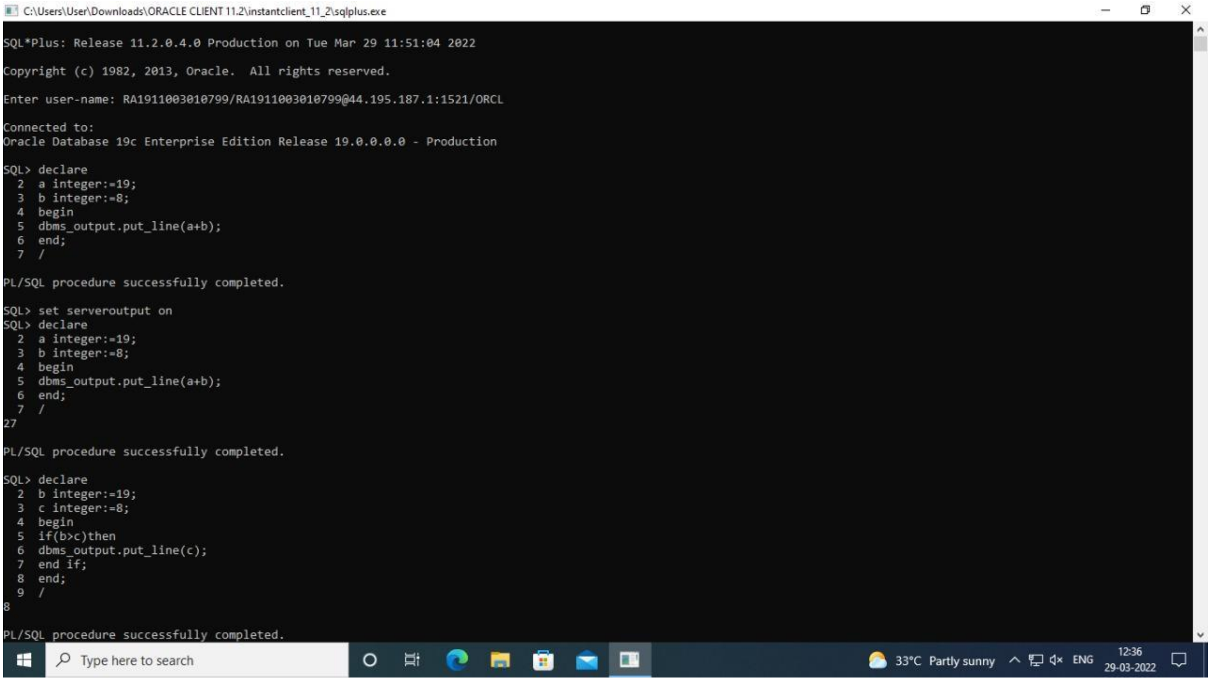
ENG
12:37
29-03-2022

```
PL/SQL procedure successfully completed.

SQL> declare
g integer:=19;
begin
if(g>5 or g<5) then
dbms_output.put_line(g);
end if;
end;
/
19

PL/SQL procedure successfully completed.

SQL> declare
a integer:=1;
b integer:=2;
c integer:=3;
begin
if(a>b) and (a>c) then
dbms_output.put_line(a);
elsif(b>a) and (b>c) then
dbms_output.put_line(b);
else
dbms_output.put_line(c);
end if;
end;
/
3

PL/SQL procedure successfully completed.

SQL> declare
fac number:=1;
n number:=&1;
begin
while n>0 loop
fac :=n*fac;
n:=n-1;
end loop;
dbms_output.put_line(fac);
end;
/
```


C:\Users\User\Downloads\ORACLE CLIENT 11.2\instantclient_11_2\sqlplus.exe
Type here to search
33°C Partly sunny
ENG
12:36
29-03-2022

```
SQL*Plus: Release 11.2.0.4.0 Production on Tue Mar 29 11:51:04 2022

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Enter user-name: RA1911003010799/RA1911003010799@44.195.187.1:1521/ORCL

Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production

SQL> declare
a integer:=19;
b integer:=8;
begin
dbms_output.put_line(a+b);
end;
/

PL/SQL procedure successfully completed.

SQL> set serveroutput on
SQL> declare
a integer:=19;
b integer:=8;
begin
dbms_output.put_line(a+b);
end;
/
27

PL/SQL procedure successfully completed.

SQL> declare
b integer:=19;
c integer:=8;
begin
if(b>c)then
dbms_output.put_line(c);
end if;
end;
/
8

PL/SQL procedure successfully completed.
```

Commands

```
declare
a integer:=19;
b integer:=8;
begin
dbms_output.put_line(a+b);
end;

declare
```

```
b integer:=19;
c integer:=8;
begin
if(b>c) then
dbms_output.put_line(b);
else
dbms_output.put_line(c);
end if;
end;

declare
g integer:=19;
begin
if(g>5 or g<5) then
dbms_output.put_line(g);
end if;
end;

declare
a integer:=1;
b integer:=2;
c integer:=3;
begin
if(a>b) and (a>c) then
  dbms_output.put_line(a);
elsif(b>a) and (b>c) then
   dbms_output.put_line(b);
else
  dbms_output.put_line(c);
end if;
end;

create table emp
(
empno integer,
name varchar(19),
income integer,
basic integer,
hra integer
)
create or replace trigger abc
after update or insert or delete on emp
for each row
begin
if updating then
dbms_output.put_line('TABLE IS UPDATED');
elsif inserting then
dbms_output.put_line('TABLE IS INSERTED');
```

```
elsif deleting then
dbms_output.put_line('TABLE IS DELETED');
end if;
end;
insert into emp values(1,'govardhan',20000,15000,1233)
insert into emp values(2,'yasaswi',25000,13000,1236)
update emp set income=income+25000 where empno=1
delete emp where empno=2
select * from emp
```