

```
CREATE TABLE employee_details(  
    employee_id NUMBER(10),  
    first_name VARCHAR2(20),  
    last_name VARCHAR2(20),  
    age NUMBER(3),  
    gender VARCHAR2(6),  
    salary NUMBER(10,2),  
    date_of_birth DATE  
);  
  
INSERT INTO employee_details values(1,'Pratik','Mishra',22,'Male'  
INSERT INTO employee_details values(2,'Vineet','Gauda',23,'Male'  
INSERT INTO employee_details values(3,'Gagan','Kaur',21,'Female'  
INSERT INTO employee_details values(4,'Anjali','Pandey',22,'Fema  
INSERT INTO employee_details values(5,'Janhavi','More',25,'Femal  
SELECT * FROM employee_details;  
ALTER TABLE employee_details DROP COLUMN age;  
DESC employee_details;  
SELECT * FROM employee_details;  
ALTER TABLE employee_details ADD(age NUMBER(3));  
SELECT * FROM employee_details;  
ALTER TABLE employee_details MODIFY (age NUmber(2));  
SELECT * FROM employee_details;  
  
DROP TABLE employee_details;  
SELECT * FROM employee_details;  
  
CREATE TABLE employee_details(  
    employee_id NUMBER(10),  
    first_name VARCHAR2(20),  
    last_name VARCHAR2(20),  
    age NUMBER(3) ,  
    gender VARCHAR2(6),  
    salary NUMBER(10,2),  
    date_of_birth DATE,  
    CONSTRAINT employee_id_pk PRIMARY KEY(employee_id)  
);  
INSERT INTO employee_details values(1,'Pratik','Mishra',22,'Male
```

```
DROP TABLE employee_details;
SELECT * FROM USER_CONSTRAINTS;
DROP TABLE employee_details;
DROP TABLE project_details;
CREATE TABLE project_details(
    project_id NUMBER(10),
    title VARCHAR2(50),
    cost NUMBER(10,2),
    client_name VARCHAR2(50),
    CONSTRAINT project_id_pk PRIMARY KEY(project_id)
);
CREATE TABLE employee_details(
    employee_id NUMBER(10),
    first_name VARCHAR2(20) NOT NULL,
    last_name VARCHAR2(20) NOT NULL,
    age NUMBER(3) NOT NULL,
    gender VARCHAR2(6) NOT NULL,
    salary NUMBER(10,2) NOT NULL,
    date_of_birth DATE NOT NULL,
    project_id NUMBER(10) NOT NULL,
    email VARCHAR(50) NOT NULL,
    city VARCHAR2(20) default 'Mumbai',
    CONSTRAINT employee_id_pk PRIMARY KEY(employee_id),
    CONSTRAINT project_id_fk FOREIGN KEY(project_id) REFEREN
    CONSTRAINT age_ck CHECK(AGE>=18),
    CONSTRAINT email_uq UNIQUE(email)
);
INSERT INTO PROJECT_DETAILS VALUES(1, 'GPAY', 1000, 'GOOGLE');
INSERT INTO PROJECT_DETAILS VALUES(2, 'PHONEPAY', 5000, 'PHONE PAY
SELECT * FROM PROJECT_details;

INSERT INTO employee_details values(1, 'Pratik', 'Mishra', 22, 'Male
INSERT INTO employee_details values(2, 'Vineet', 'Gauda', 23, 'Male',
INSERT INTO employee_details values(7, 'VF', 'VfV', 41, 'NHN', 500, '1
INSERT INTO employee_details values(4, 'Anjali', 'Pandey', 22, 'Fema
INSERT INTO employee_details values(5, 'Janhavi', 'More', 25, 'Femal
SELECT * FROM employee_details;
```

```
DROP TABLE project_details;
INSERT INTO employee_details(employee_id,first_name,last_name,age)
VALUES(101,'sAMARTH','Patil',25,'Male',1000,'10-Jan-2000',1,'sam
select * from employee_details;
```

```
--Client_master---
```

```
CREATE TABLE Client_master (
    client_no VARCHAR2(6) ,
    name VARCHAR2(20) NOT NULL,
    address1 VARCHAR2(30),
    address2 VARCHAR2(30),
    city VARCHAR2(15),
    state VARCHAR2(15),
    pincode NUMBER(6),
    bal_due NUMBER(10,2),
    CONSTRAINT client_no_pk PRIMARY KEY(client_no),
    CONSTRAINT client_no_ck CHECK(client_no LIKE 'C%')
);
INSERT INTO client_master (client_no,name,address1,address2,city,
VALUES('C00001','Ivan Bayross','Bhandup','Bom
INSERT INTO client_master (client_no,name,address1,address2,city,
VALUES('C00002','Vandana Saitwal','Madras','Ma
INSERT INTO client_master (client_no,name,address1,address2,city,
VALUES('C00003','Pramada Jaguste','Dadar','Bor
INSERT INTO client_master (client_no,name,address1,address2,city,
VALUES('C00004','Basu Navindgi','Thane','Bomb
INSERT INTO client_master (client_no,name,address1,address2,city,
VALUES('C00005','Ravi Sreedharan','chandini
INSERT INTO client_master (client_no,name,address1,address2,city,
VALUES('C00005','Rukmini','Kalyan','Bombay','I
```

```
--product_master---
```

```
CREATE TABLE product_master (
    product_no VARCHAR2(6) ,
    description VARCHAR2(50) NOT NULL,
    profit_percent NUMBER(3,2) NOT NULL,
    unit_measure VARCHAR2(10) NOT NULL,
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    sell_price NUMBER(8,2) NOT NULL,
    cost_price NUMBER(8,2) NOT NULL,
    CONSTRAINT product_no_pk PRIMARY KEY(product_no),
    CONSTRAINT product_no_ck CHECK(product_no LIKE 'P%'),
    CONSTRAINT sell_price_ck CHECK(sell_price > 0),
    CONSTRAINT cost_price_ck CHECK(cost_price > 0)
);
INSERT INTO product_master(product_no,description,profit_percent,
                           VALUES('P00001','1.44 Flopppies',5,'Piece',10
INSERT INTO product_master(product_no,description,profit_percent,
                           VALUES('P03453','Monitors',5,'Piece',5,1050,1
INSERT INTO product_master(product_no,description,profit_percent,
                           VALUES('P06734','Mouse',6,'Piece',10,12000,11
INSERT INTO product_master(product_no,description,profit_percent,
                           VALUES('P07865','1.22 Flopppies',5,'Piece',10
INSERT INTO product_master(product_no,description,profit_percent,
                           VALUES('P07868','Keyboards',2,'Piece',10,3150
INSERT INTO product_master(product_no,description,profit_percent,
                           VALUES('P07885','CD Drive',2.5,'Piece',10,52
INSERT INTO product_master(product_no,description,profit_percent,
                           VALUES('P07965','540 HDD',4,'Piece',10,8400,8
INSERT INTO product_master(product_no,description,profit_percent,
                           VALUES('P07975','1.44 Drive',5,'Piece',10,10
                           INSERT INTO product_master(product_no,descrip
                           VALUES('P08865','1.22 Drive',5,'Piece',2,1050

-----
--SALESMAN_MASTER--
CREATE TABLE salesman_master (
salesman_no VARCHAR2(6),
salesman_name VARCHAR2(20) NOT NULL,
Address1 VARCHAR2(30),
Address2 VARCHAR2(30),
city VARCHAR2(20),
pincode VARCHAR2(6),
state VARCHAR2(20),
sal_amt NUMBER(8,2) NOT NULL,
```

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ytd_sales NUMBER(6,2) NOT NULL,
remarks VARCHAR2(60),
CONSTRAINT salesman_no_pk PRIMARY KEY(salesman_no),
CONSTRAINT salesman_no_ck CHECK(salesman_no LIKE 'S%'),
CONSTRAINT sal_amt_ck CHECK(sal_amt > 0),
CONSTRAINT tgt_to_get_ck CHECK(tgt_to_get > 0)
);
INSERT INTO salesman_master VALUES('S00001','Kiran','A/14','World
      INSERT INTO salesman_master VALUES('S00002','Manish','65
      INSERT INTO salesman_master VALUES('S00003','Ravi','P-7',
      INSERT INTO salesman_master VALUES('S00004','Ashish','A/

-----SALES_ORDER-----
CREATE TABLE sales_order(
  s_order_no VARCHAR2(6),
    s_order_date date,
    client_no VARCHAR2(6),
    dely_addr VARCHAR2(25),
    salesman_no VARCHAR2(6),
    dely_type CHAR(1) DEFAULT 'F',
    billed_yn CHAR(1) DEFAULT 'N',
    dely_date date,
    order_status VARCHAR2(10),
    CONSTRAINT s_order_no_pk PRIMARY KEY(s_order_no),
    CONSTRAINT s_order_no_ck CHECK(s_order_no LIKE 'O%'),
    CONSTRAINT client_no_fk FOREIGN KEY(client_no) REFERENCES Cl
    CONSTRAINT salesman_no_fk FOREIGN KEY(salesman_no) REFERENCE
    CONSTRAINT dely_type CHECK(dely_type IN('P','F')),
    CONSTRAINT billed_yn CHECK(billed_yn IN('Y','N')),
    CONSTRAINT dely_date_ck CHECK(dely_date > s_order_date),
    CONSTRAINT order_status_ck CHECK(order_status IN('IN PROCESS
);
INSERT INTO sales_order(s_order_no,s_order_date,client_no,salesm
      VALUES('O19001','12-Jan-1996','C00001','S00001','F','1
INSERT INTO sales_order(s_order_no,s_order_date,client_no,salesm
      VALUES('O19002','25-Jan-1996','C00002','S00002','P',

```

```
INSERT INTO sales_order(s_order_no,s_order_date,client_no,salesm
VALUES('O19001','12-Jan-1996','C00001','S00001','F','1
INSERT INTO sales_order(s_order_no,s_order_date,client_no,salesm
VALUES('O19002','25-Jan-1996','C00002','S00002','P',
INSERT INTO sales_order(s_order_no,s_order_date,client_no,salesm
VALUES('O46865','18-Feb-1996','C00003','S00003','F',
INSERT INTO sales_order(s_order_no,s_order_date,client_no,salesm
VALUES('O19003','03-Apr-1996','C00001','S00001','F',
INSERT INTO sales_order(s_order_no,s_order_date,client_no,salesm
VALUES('O46866','20-May-1996','C00004','S00002','P',
INSERT INTO sales_order(s_order_no,s_order_date,client_no,salesm
VALUES('O10008','24-May-1996','C00005','S00004','F',
```

```
--SALES_ORDER_DETAILS--
```

```
CREATE TABLE sales_order_details(
s_order_no VARCHAR2(6),
product_no VARCHAR2(6),
oty_ordered NUMBER(8),
qty_disp NUMBER(8),
product_rate NUMBER(10,2),
CONSTRAINT s_order_no_fk FOREIGN KEY(s_order_no) REFERENCES s
CONSTRAINT product_no_fk FOREIGN KEY(product_no) REFERENCES P
);
```

```
--CHALLAN_HEADER--
```

```
CREATE TABLE challan_header(
challan_no VARCHAR2(6),
s_order_no VARCHAR2(6),
challan_date DATE NOT NULL,
billed_yn CHAR(1) DEFAULT 'N' ,
CONSTRAINT challan_no_pk PRIMARY KEY( challan_no),
CONSTRAINT challan_no_ck CHECK ( challan_no LIKE 'CH%'),
CONSTRAINT s_order_no_fk FOREIGN KEY(s_order_no) REFERENCES
CONSTRAINT billed_yn_ck CHECK (billed_yn ='Y' OR billed_yn =
);
```

```
--CHALLAN_DETAILS--  
CREATE TABLE challan_details(  
    challan_no VARCHAR2(6),  
    product_no VARCHAR2(6),  
    qty_disp NUMBER(4,2) NOT NULL,  
    CONSTRAINT challan_no_pkey PRIMARY KEY(challan_no),  
    CONSTRAINT challan_no_fkey FOREIGN KEY(challan_no) REFERENCE  
    CONSTRAINT product_no_fkey FOREIGN KEY(product_no) REFERENCE  
    );  
  
commit;  
  
CREATE TABLE employee_details (  
    employee_id NUMBER(10),  
    first_name VARCHAR2(50) NOT NULL,  
    last_name VARCHAR2(50) NOT NULL,  
    age NUMBER(3) NOT NULL,  
    gender VARCHAR(6) NOT NULL,  
    qualification VARCHAR(50) not null,  
    city VARCHAR(50) NOT NULL,  
    date_OF_birth DATE NOT NULL,  
    salary NUMBER(10,2),  
    CONSTRAINT employee_id_pk PRIMARY KEY(employee_id)  
    );  
  
INSERT INTO employee_details values (3681,'Ashish','Kamble',32,'M',  
INSERT INTO employee_details values (3680, 'Anjali','Pandey',22,'F',  
INSERT INTO employee_details values (3683,'Gagandeep Kaur','Jand',  
INSERT INTO employee_details values (3690,'Pratik','Mishra',22,'M',  
INSERT INTO employee_details values (3689,'Pratik','Ghadge',23,'M',  
INSERT INTO employee_details VALUES (3706, 'Vineet','Gauda',22,'M',  
INSERT INTO employee_details values (3701,'Rohit','Dagade',21,'M',  
INSERT INTO employee_details VALUES (3705,'Yash','Walanju',21,'M',  
INSERT INTO employee_details VALUES (3703,'Janhavi','More',22,'F',  
INSERT into employee_details values (3679,'Gaurav','Baswant',25,'M',  
INSERT INTO employee_details values (3682,'Dinesh','Rajan',22,'M',  
INSERT INTO employee_details values (3699,'Vipul','Tambavekar',23,'M',  
INSERT INTO employee_details values (3700,'Pradeep','sawant',24,'M');
```

```
INSERT INTO employee_details values (3685, 'Kapil', 'Khandpekar', 24, 'Male', 'Kalyan', 'B.E.', 25000);
INSERT INTO employee_details values (3693, 'Sayali', 'Shete', 22, 'Female', 'Pune', 'B.E.', 28000);
INSERT INTO employee_details values (3707, 'Suraj', 'Gupta', 23, 'Male', 'Mumbai', 'B.E.', 25000);
INSERT INTO employee_details values (3698, 'Suraj', 'Patel', 24, 'Male', 'Mumbai', 'B.E.', 25000);
INSERT INTO employee_details values (3688, 'Prashant', 'Zunzarrao', 24, 'Male', 'Mumbai', 'B.E.', 25000);
INSERT INTO employee_details values (3695, 'Siraj', 'Shaikh', 24, 'Male', 'Mumbai', 'B.E.', 25000);
INSERT INTO employee_details values (3704, 'Amit', 'Wagharalkar', 24, 'Male', 'Mumbai', 'B.E.', 25000);
INSERT INTO employee_details values (3692, 'Rohit', 'Pandey', 28, 'Male', 'Mumbai', 'B.E.', 25000);
INSERT INTO employee_details values (3678, 'Ajay', 'benbansi', 25, 'Male', 'Mumbai', 'B.E.', 25000);
INSERT INTO employee_details values (3614, 'Rishab', 'Gharti', 23, 'Male', 'Mumbai', 'B.E.', 25000);
INSERT INTO employee_details values (3691, 'Kunal', 'Aakre', 24, 'Male', 'Mumbai', 'B.E.', 25000);
INSERT INTO employee_details values (3694, 'SHABAN Ali', 'KHAN', 23, 'Male', 'Mumbai', 'B.E.', 25000);
INSERT INTO employee_details values (3696, 'Shakti', 'Patole', 22, 'Male', 'Mumbai', 'B.E.', 25000);
INSERT INTO employee_details values (3697, 'Siddhesh', 'Patangrao', 24, 'Male', 'Mumbai', 'B.E.', 25000);
INSERT INTO employee_details values (3655, 'Amol', 'Pawar', 24, 'Male', 'Mumbai', 'B.E.', 25000);
INSERT INTO employee_details values (3686, 'Kavita', 'Khajure', 23, 'Female', 'Mumbai', 'B.E.', 25000);
select * from employee_details;
--all records--
select * from employee_details;
--to select specific COLUMNS(SELECTED COLUMNS)--
SELECT employee_id, first_name, last_name, salary FROM employee_details;
select * from employee_details where city = 'Kalyan';
select * from employee_details where qualification = 'B.E.' AND city = 'Mumbai';
select * from employee_details where city != 'Mumbai';
select * from employee_details where city NOT IN('Mumbai', 'Pune');
select * from employee_details where city IN('Mumbai', 'Pune');
SELECT * from employee_details where salary BETWEEN 25000 AND 30000;
SELECT * from employee_details where salary NOT BETWEEN 25000 AND 30000;
SELECT * from employee_details where first_name LIKE 'A%';
SELECT * from employee_details where last_name LIKE '%ar';
SELECT * from employee_details ORDER BY first_name;
SELECT * from employee_details ORDER BY first_name DESC;
SELECT first_name , last_name , city FROM employee_details ORDER BY first_name;
SELECT first_name , last_name , city FROM employee_details ORDER BY first_name DESC;
---aggregate functions---
SELECT AVG(salary) from employee_details;
SELECT MAX(salary) from employee_details;
```



```
SELECT COUNT(city)  from employee_details where city = 'Mumbai';
SELECT city , count(city) FROM employee_details group by city order by count(city);
SELECT city , count(city) FROM employee_details group by city order by count(city);
SELECT city , SUM(salary) FROM employee_details GROUP BY city HAVING SUM(salary) > 10000;
SELECT city , SUM(salary) FROM employee_details GROUP BY city HAVING SUM(salary) > 10000;
CREATE TABLE color_a (
    color_id NUMBER(10),
    name VARCHAR(30)
);
INSERT INTO color_a VALUES(1, 'Blue');
INSERT INTO color_a VALUES(2, 'Green');
INSERT INTO color_a VALUES(3, 'Yellow');

CREATE TABLE color_b (
    color_id NUMBER(10),
    name VARCHAR(50)
);
INSERT INTO color_b VALUES(1, 'Blue');
INSERT INTO color_b VALUES(2, 'Green');
INSERT INTO color_b VALUES(4, 'Gold');
select * from color_a;
select * from color_b;
select * from color_a CROSS JOIN color_b;
--joins--
--inner join--
select * from color_a a JOIN color_b b ON a.color_id = b.color_id;
select * from color_a a INNER JOIN color_b b ON a.color_id = b.color_id;
--Outer Join --
--left outer join--
select * from color_a a LEFT JOIN color_b b ON a.color_id = b.color_id;
--right outer join--
select * from color_a a RIGHT JOIN color_b b ON a.color_id = b.color_id;
--full outer join--
select * from color_a a FULL OUTER JOIN color_b b ON a.color_id = b.color_id;
--Self Join--
CREATE TABLE employee_manager_details (
    employee_id NUMBER(10),
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        designation VARCHAR2(20),
        reports_to NUMBER(10)
    );

INSERT INTO employee_manager_details VALUES(101,'x','Director',10);
INSERT INTO employee_manager_details VALUES(102,'y','Manager',10);
INSERT INTO employee_manager_details VALUES(103,'z','Jr Manager',10);
INSERT INTO employee_manager_details VALUES(104,'a','Trainee',10);
INSERT INTO employee_manager_details VALUES(105,'b','Trainee',10);

select * from employee_manager_details;

SELECT * FROM employee_manager_details emp CROSS JOIN employee_m
SELECT emp.name , 'reports to' , mgr.name FROM employee_manager_
CREATE TABLE employee_details(
    employee_id VARCHAR2(10),
    first_name VARCHAR2(20),
    last_name VARCHAR2(20),
    age NUMBER(3),
    gender VARCHAR2(6),
    salary NUMBER(10,2),
    date_of_birth DATE,
    project_id NUMBER(10),
    email VARCHAR(50) NOT NULL,
    city VARCHAR2(20) DEFAULT 'Mumbai',
    CONSTRAINT employee_id_pk PRIMARY KEY(employee_id),
    CONSTRAINT project_id_fk FOREIGN KEY(project_id) REFERENCES
    CONSTRAINT age_ck CHECK(age >= 18),
    CONSTRAINT email_uq UNIQUE(email)
);

INSERT INTO employee_details(employee_id,first_name,last_name,age
VALUES('MGS'||employee_sequence.nextVal,'Gagandeep kaur','Jandu',
INSERT INTO employee_details(employee_id,first_name,last_name,age
VALUES('MGS'||employee_sequence.nextVal,'Anjali','Pandey',22,'Fe
INSERT INTO employee_details(employee_id,first_name,last_name,age
VALUES('MGS'||employee_sequence.nextVal,'Sejal','Jain',21,'male',
CREATE TABLE project_details(
```

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        title VARCHAR2(50),
        cost NUMBER(10,2),
        client_name VARCHAR2(50),
        CONSTRAINT project_id_pk PRIMARY KEY(project_id)
    );

INSERT INTO project_details VALUES(1, 'Gpay', 10000, 'Google');
INSERT INTO project_details VALUES(2, 'PhonePay', 5000, 'Phone Pay');
select * from project_details;
DROP TABLE employee_details;
DROP TABLE project_details;
select * from employee_details;
--
SELECT * FROM project_details project JOIN employee_details empl
SELECT * FROM employee_details WHERE project_id = (
        SELECT project_id from project_details WHERE tit
);
SELECT * FROM employee_details WHERE NOT EXISTS (SELECT project_
CREATE SEQUENCE employee_sequence;
SELECT employee_sequence.nextVal FROM dual;
SELECT employee_sequence.currVal FROM dual;
select * from employee_details;
DROP SEQUENCE employee_sequence;
CREATE SEQUENCE employee_sequence
START WITH 10000
INCREMENT BY 10;
INSERT INTO employee_details(employee_id,first_name,last_name,age)
VALUES('MGS'||employee_sequence.nextVal, 'Gagandeep kaur', 'Jandu',
INSERT INTO employee_details(employee_id,first_name,last_name,age)
VALUES('MGS'||employee_sequence.nextVal, 'Anjali', 'Pandey', 22, 'Fe
INSERT INTO employee_details(employee_id,first_name,last_name,age)
VALUES('MGS'||employee_sequence.nextVal, 'Sejal', 'Jain', 21, 'male',
SELECT * FROM employee_details;
--STRING FUNCTIONS--
SELECT ASCII('a') from dual;
SELECT ASCII('A') from dual;

SELECT CHR(65) from dual;
```

```
SELECT CONCAT('Happy','Coding') FROM dual;
SELECT 'Happy' || ' ' || 'Coding' FROM dual;

SELECT INITCAP('HAPPY CODING') FROM dual;

SELECT LENGTH('MINDGATE SOLUTIONS') FROM dual;
SELECT first_name FROM employee_details ORDER BY LENGTH(first_name);
SELECT SYSDATE FROM dual;
SELECT ADD_MONTHS(SYSDATE,2) FROM dual;
SELECT ADD_MONTHS(SYSDATE,-2) FROM dual;

SELECT SYSDATE +1 FROM dual;
SELECT SYSDATE -2 FROM DUAL;

SELECT EXTRACT(DAY FROM SYSDATE) FROM DUAL;
SELECT EXTRACT(DAY FROM TO_DATE('13-DEC-2022','DD-MON-YYYY')) FROM DUAL;

SELECT EXTRACT(MONTH FROM SYSDATE) FROM DUAL;
SELECT EXTRACT(MONTH FROM TO_DATE('13-DEC-2022','DD-MON-YYYY')) FROM DUAL;

--VIEW--
SELECT * FROM employee_details;
CREATE VIEW employee_vw
AS
    SELECT
        employee_id,
        first_name,
        last_name,
        gender

    FROM
        employee_details;
select * from employee_vw;
SELECT * FROM employee_vw
WHERE last_name = 'Pandey';
```

```
select * from employee_details;
select employee_id from employee_vw;
--index--
CREATE INDEX employee_first_name
ON employee_details(first_name);
select * from all_indexes where table_name = 'EMPLOYEE_DETAILS';

--STORED PROCEDURE--
DROP TABLE employee_details;
CREATE TABLE employee_details(
    employee_id NUMBER(10),
    name VARCHAR2(20) not null,
    salary NUMBER(10) NOT NULL,
    CONSTRAINT employee_id_pk PRIMARY KEY(employee_id)
);

CREATE OR REPLACE PROCEDURE insert_new_employee(
    p_employee_id IN NUMBER,
    p_name IN VARCHAR2,
    p_salary IN NUMBER
)
IS
BEGIN
    INSERT INTO employee_details
    VALUES(p_employee_id , p_name , p_salary);
    COMMIT;
END;
/
BEGIN
    insert_new_employee(101, 'x', 100);
END;
/
select * from employee_details;
commit;
```