Advance Database Management System Lab

Experiment- 7

To understand the concepts of Index

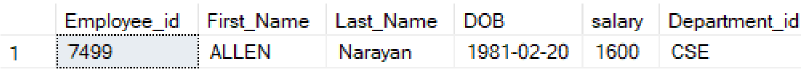
Aryan Mohan

500092142

Batch- 2

```
---1) Create an index of name employee_idx on EMPLOYEES with column
Last_Name, Department_id
CREATE DATABASE LabExperiment7;

USE LabExperiment7;

CREATE TABLE EMPLOYES( Employee_id VARCHAR(10) NOT NULL
PRIMARY KEY, First_Name VARCHAR(30) NOT NULL, Last_Name
VARCHAR(30) NOT NULL, DOB Date, salary DECIMAL(25,0) NOT NULL,
Department_id VARCHAR(10) )

insert into EMPLOYES values(7499, 'ALLEN','Narayan', '20-FEB-
81',1600,'CSE');

SELECT * FROM EMPLOYES;
insert into EMPLOYES values(7521, 'WARD', 'S', '22-FEB-81', 125000,
'AIML');
insert into EMPLOYES values(7566, 'JONES','Wong','02-APR-
81',297500,'AIML');
insert into EMPLOYES values(7654, 'MARTIN', 'SALMAN','28-SEP-
81',125000,'CIVIL');
insert into EMPLOYES values(7698, 'BLAKE', 'NAGER','01-MAY-
81',285000,'BIGDATA');
insert into EMPLOYES values(7782, 'CLARK', 'MAGER','09-JUN-81',245000,
'BIGDATA');
insert into EMPLOYES values(7788, 'SCOTT', 'ANAL','09-DEC-
82',300000,'ME');
insert into EMPLOYES values(7839, 'KING', 'PRESIDENT','17-NOV-
81',500000,'AIML');

CREATE INDEX employee_idx on EMPLOYES(Last_Name, Department_id)
```

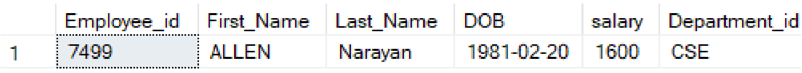
Output:



	Employee_id	First_Name	Last_Name	DOB	salary	Department_id
1	7499	ALLEN	Narayan	1981-02-20	1600	CSE

```
--2) Find the ROWID for the above table and create a unique index on
employee_id column of the EMPLOYEES.
CREATE UNIQUE INDEX EMP_UNI ON EMPLOYES(Employee_id)

---3) Create a reverse index on employee_id column of the EMPLOYEES.
CREATE INDEX EMP_REVERSE ON EMPLOYES(First_name) REVERSE;

---4) Create a unique and composite index on employee_id and check whether
there is duplicity of tuples or not.
CREATE INDEX employee_comp on EMPLOYES(First_Name,Last_Name,
DOB,salary);

CREATE UNIQUE INDEX emp_comp on
EMPLOYES(First_Name,Last_Name, DOB,salary);

--5) Create Function-based indexes defined on the SQL functions
UPPER(column_name) or LOWER(column_name) to facilitate case-insensitive
searches(on  column Last_Name).
CREATE TABLE EMPLOYEE( Employee_id VARCHAR(10) NOT NULL
PRIMARY KEY, First_Name VARCHAR(30) NOT NULL, Last_Name
VARCHAR(30) NOT NULL, Last_Name_upper as UPPER(Last_Name),
First_name_lower as LOWER(First_Name), DOB Date, salary
DECIMAL(25,0) NOT NULL, Department_id VARCHAR(10) )

insert into EMPLOYEE values(7566, 'jones','wong','02-APR-
81',297500,'AIML');
insert into EMPLOYEE values(7788, 'scott', 'anal','09-DEC-82',300000,'ME');
insert into EMPLOYEE values(7654, 'MARTIN', 'fox','28-SEP-
81',125000,'CIVIL');

SELECT * FROM EMPLOYEE;

CREATE UNIQUE INDEX emp_fun_index ON
EMPLOYEE(Last_Name_upper);

SELECT Employee_id, First_Name, DOB,salary from EMPLOYEE where
UPPER(Last_Name)= 'WONG';
```

Output:



	Employee_id	First_Name	Last_Name	DOB	salary	Department_id
1	7499	ALLEN	Narayan	1981-02-20	1600	CSE

```
--6) Drop the function based index on column Last_Name.

DROP INDEX emp_fun_index ON EMPLOYEE;

CREATE CLUSTERED INDEX emp_clust on employes(First_Name);

CREATE TABLE DEPARTMENT ( Dname VARCHAR(15) NOT NULL,
Dnumber INT NOT NULL, Mgr_ssn CHAR(9) NOT NULL, Mgr_start_date
DATE );
CREATE CLUSTERED INDEX DEPT_clust on DEPARTMENT(Dname);
```