

**A Project Report submitted**  
**For Database Management System (UEC716)**

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## **CLASSROOM LOCATOR**

**Submitted to**  
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**THAPAR INSTITUTE**  
OF ENGINEERING & TECHNOLOGY  
(Deemed to be University)

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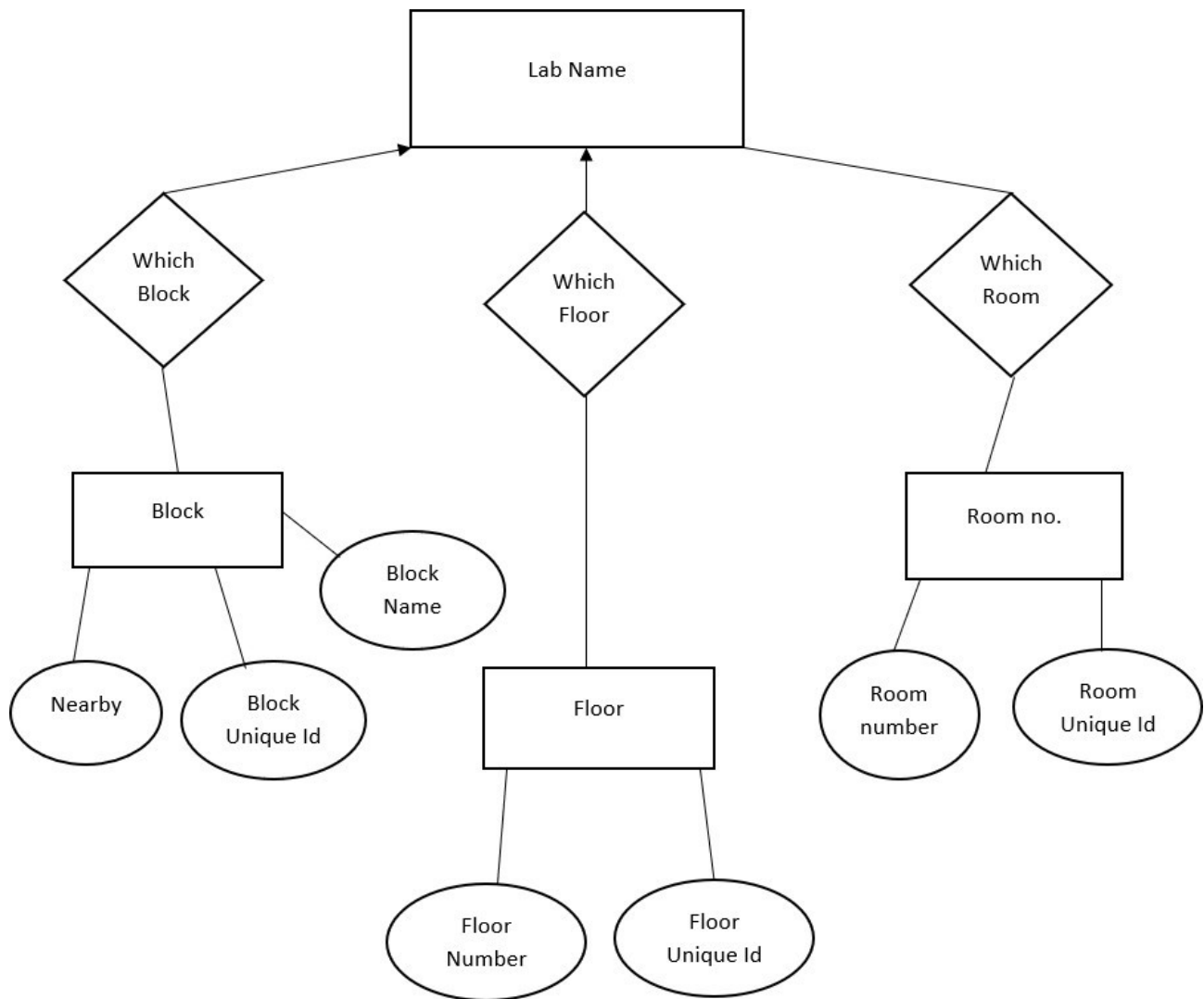
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# INTRODUCTION

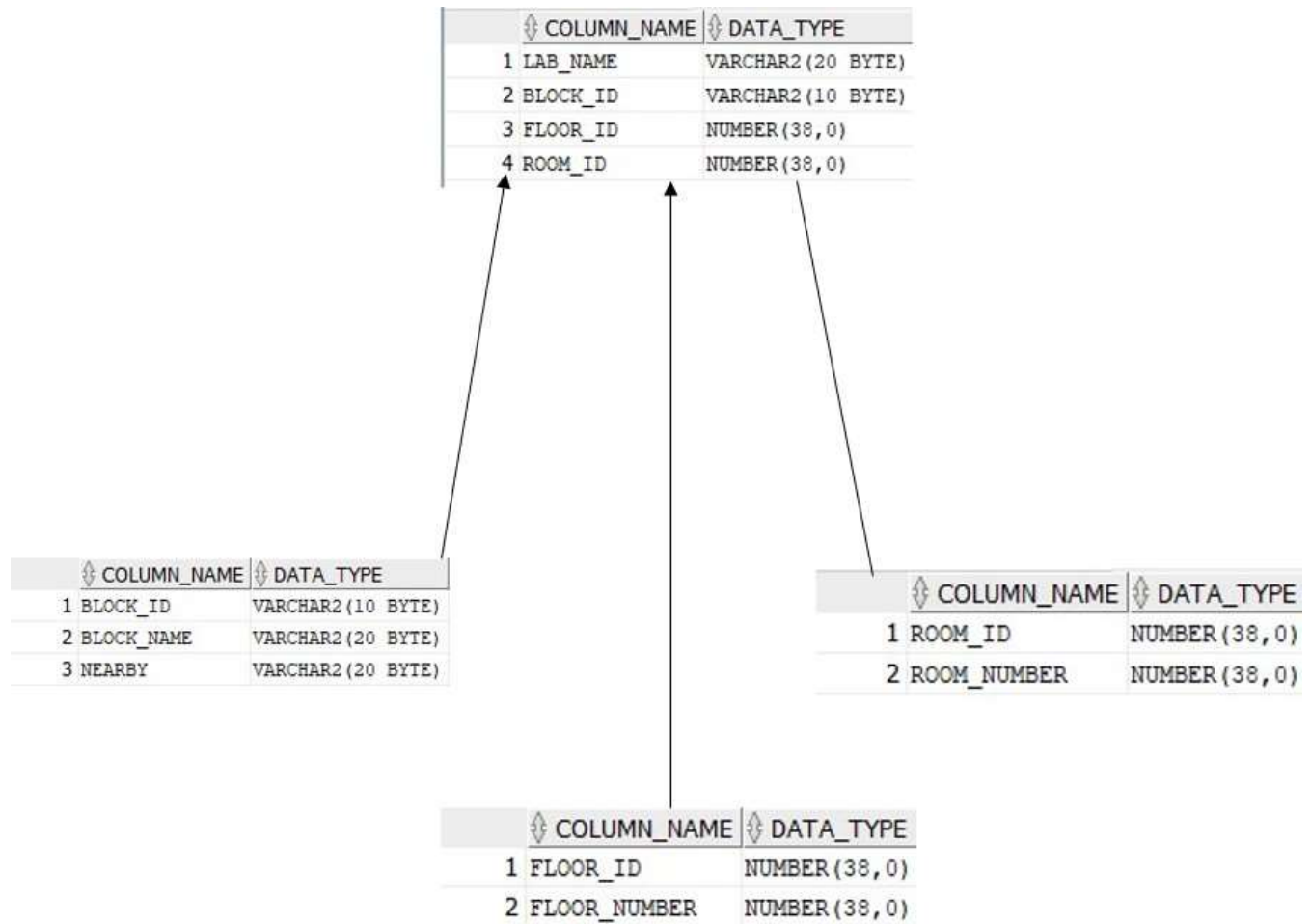
As students of Thapar, we boast of our vast campus, but such a vast campus comes with its obstacles! Many students need help figuring out the location of the labs/halls in their schedule. The solution we have developed aims to solve this issue. It provides an easy-to-use and convenient method to locate them. Even during examinations and sessionals, most of the time, the rooms assigned are entirely foreign to the students.

The website has a simple and user-friendly interface. We can enter the lab/hall name we need to find and get its precise location, including the block, floor, room number, and other possible landmarks. Our solution would save time and effort and make things less chaotic and more organized for the students of Thapar University.

# ER DIAGRAM



# ER TO TABLE



# NORMALIZATION

```
CREATE TABLE LAB (LAB_NAME VARCHAR(20), BLOCK_
NAME VARCHAR(20), NEARBY VARCHAR(20),
FLOOR_NUMBER INT, ROOM_NUMBER INT);
```



```
CREATE TABLE LAB (LAB_NAME VARCHAR(20), LAB_ID
VARCHAR(10), FOREIGN KEY(LAB_ID) REFERENCES
DETAILS(LAB_ID));
CREATE TABLE DETAILS(LAB_ID VARCHAR(10) PRIMARY KEY,
BLOCK_NAME VARCHAR(20), NEARBY VARCHAR(20),
FLOOR_NUMBER INT, ROOM_NUMBER INT);
```



```
CREATE TABLE BBLOCK(BLOCK_ID VARCHAR(10) PRIMARY
KEY, BLOCK_NAME VARCHAR(20), NEARBY VARCHAR(20));
CREATE TABLE FLOOR(FLOOR_ID INT PRIMARY KEY, FLOOR_NUMBER
INT);
CREATE TABLE ROOM(ROOM_ID INT PRIMARY KEY,
ROOM_NUMBER INT);
CREATE TABLE LAB(LAB_NAME VARCHAR(20), BLOCK_ID
VARCHAR(10), FLOOR_ID INT, ROOM_ID INT,
FOREIGN KEY(BLOCK_ID) REFERENCES
BBLOCK(BLOCK_ID),
FOREIGN KEY(FLOOR_ID) REFERENCES FLOOR(FLOOR_ID),
FOREIGN KEY(ROOM_ID) REFERENCES ROOM(ROOM_ID));
```

# SQL CODE

```
create table bblock(block_id varchar(10) primary key, block_name varchar(20),
nearby varchar(20));
create table floor(floor_id int primary key, floor_number int);
create table room(room_id int primary key, room_number int);
create table lab(lab_name varchar(20),block_id varchar(10),floor_id
int,room_id int,
foreign key(block_id) references bblock(block_id),
foreign key(floor_id) references floor(floor_id),
foreign key(room_id) references room(room_id));
insert into bblock values('L','CSED','Library and LT LP');
insert into floor values(00,00);
insert into floor values(01,01);
insert into floor values(02,02);
insert into floor values(03,03);
insert into floor values(04,04);
insert into floor values(05,05);
insert into room values(002,002);
insert into room values(004,004);
insert into room values(005,005);
insert into room values(009,009);
insert into room values(101,101);
insert into room values(102,102);
insert into room values(103,103);
insert into room values(104,104);
insert into room values(105,105);
insert into room values(201,201);
insert into room values(202,202);
insert into room values(206,206);
insert into room values(207,207);
insert into room values(209,209);
insert into room values(307,307);
insert into room values(308,308);
insert into room values(401,401);
insert into room values(402,402);
insert into room values(408,408);
insert into room values(409,409);
insert into room values(429,429);
insert into room values(430,430);
insert into lab values('G&A LAB','L',00,002);
insert into lab values('DSA LAB1','L',00,004);
```

```
insert into lab values('DSA LAB2','L',00,005);
insert into lab values('ML LAB','L',00,009);
insert into lab values('ED LAB1','L',01,101);
insert into lab values('NS LAB1','L',01,102);
insert into lab values('NS LAB2','L',01,103);
insert into lab values('SE LAB1','L',01,104);
insert into lab values('SE LAB2','L',01,105);
insert into lab values('SS LAB1','L',02,201);
insert into lab values('SS LAB2','L',02,202);
insert into lab values('DMS LAB1','L',02,206);
insert into lab values('DMS LAB2','L',02,207);
insert into lab values('ED LAB2','L',02,209);
insert into lab values('AI LAB','L',03,307);
insert into lab values('DS LAB','L',03,308);
insert into lab values('ES LAB1','L',04,401);
insert into lab values('ES LAB2','L',04,402);
insert into lab values('IS LAB1','L',04,408);
insert into lab values('IS LAB2','L',04,409);
insert into lab values('CG LAB1','L',04,429);
insert into lab values('CG LAB2','L',04,430);
```



# PL/SQL CODE

```
SET SERVEROUTPUT ON;
SET VERIFY OFF;
SET FEEDBACK OFF;
declare
  lab_namee varchar(20);
  b_id varchar(10);
  f_id int;
  r_id int;
  bn varchar(10);
  nb varchar(20);
  fn int;
  rn int;
  cursor find_lab is select block_id, floor_id, room_id from lab where
lab_name=lab_namee;
begin lab_namee:='ES LAB2; -- Hardcoding input value
open find_lab;
fetch find_lab into b_id,f_id,r_id;
close find_lab;
select block_name,nearby into bn,nb from bblock where block_id=b_id;
select floor_number into fn from floor where floor_id=f_id;
select room_number into rn from room where room_id=r_id;
dbms_output.put_line ('The location of your lab is ');
dbms_output.put_line ('Lab Name : '||lab_namee);
dbms_output.put_line ('Block : '||bn);
dbms_output.put_line ('Nearby : ' || nb);
dbms_output.put_line ('Floor number : '||fn);
dbms_output.put_line ('Room number : '||rn);
exception when no_data_found then
  dbms_output.put_line('No such lab available in database');
when others then
  dbms_output.put_line ('Error');
end;
```

# INPUT / OUTPUT

Input (hardcoded into the pl/sql code):

ES LAB2

## Output

Statement processed.  
The location of your lab is  
Lab Name : ES LAB2  
Block : CSED  
Nearby : Library and LT LP  
Floor number : 4  
Room number : 402

## Tables:

BLOCK_ID	BLOCK_NAME	NEARBY
L	CSED	Library and LT LP

B – BLOCK TABLE

FLOOR_ID	FLOOR_NUMBER
0	0
1	1
2	2
3	3
4	4
5	5

FLOOR TABLE

LAB_NAME	BLOCK_ID	FLOOR_ID	ROOM_ID
G&A LAB	L	0	2
DSA LAB1	L	0	4
DSA LAB2	L	0	5
ML LAB	L	0	9
ED LAB1	L	1	101
NS LAB1	L	1	102
NS LAB2	L	1	103
SE LAB1	L	1	104
SE LAB2	L	1	105
SS LAB1	L	2	201
SS LAB2	L	2	202
DMS LAB1	L	2	206
DMS LAB2	L	2	207
ED LAB2	L	2	209
AI LAB	L	3	307
DS LAB	L	3	308
ES LAB1	L	4	401
ES LAB2	L	4	402
IS LAB1	L	4	408
TS LAB2	L	4	409

LAB TABLE

ROOM_ID	ROOM_NUMBER
2	2
4	4
5	5
9	9
101	101
102	102
103	103
104	104
105	105
201	201
202	202
206	206
207	207
209	209
307	307
308	308
401	401

ROOM TABLE