CS262

LAB ASSIGNMENT 7

Hostel Managment System

TA: Mr. Atul Sharma

GROUP 4
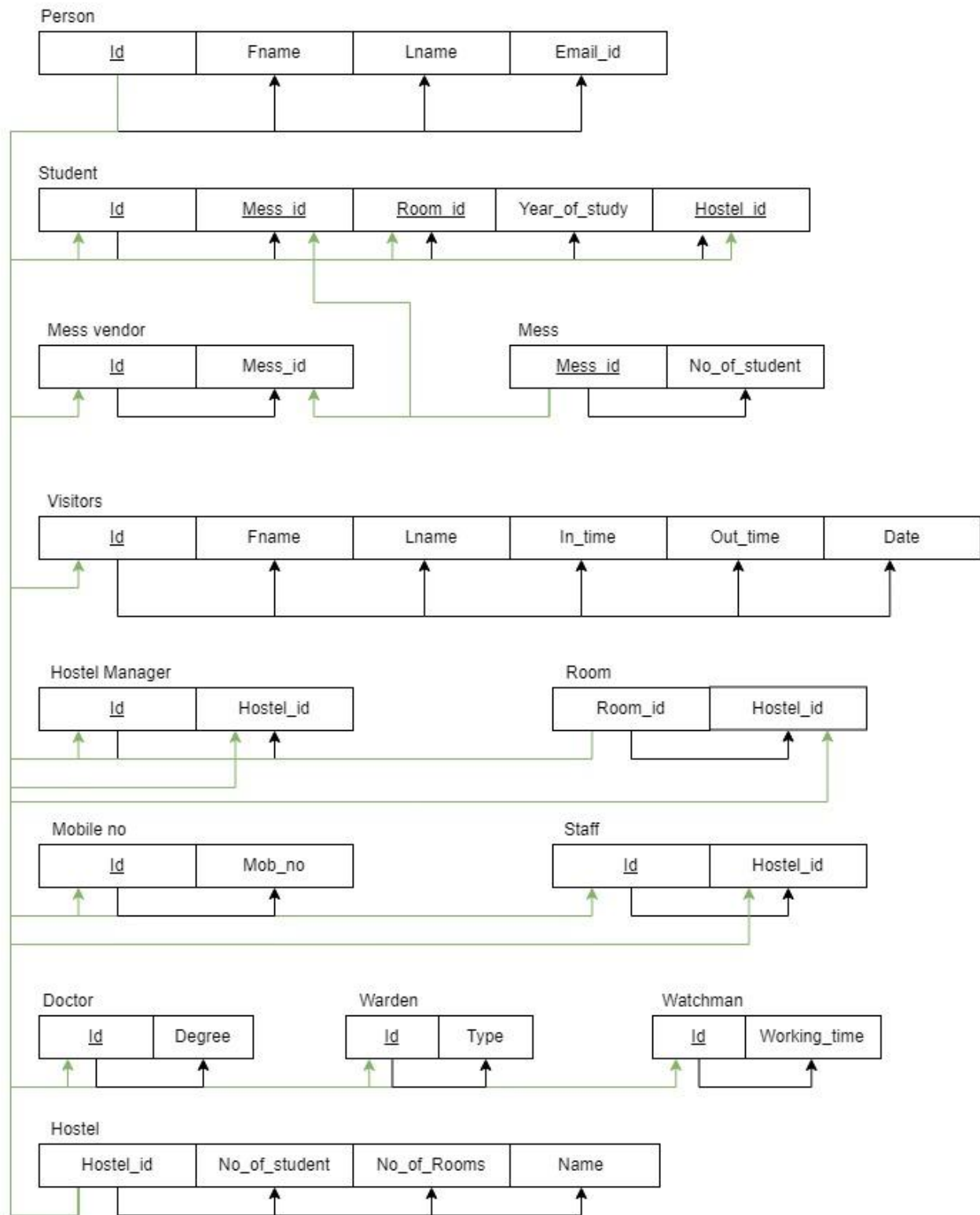
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TASK 1

1- Design the functional dependencies holding in the existing relational model.

Person

Id	Fname	Lname	Email_id

Student

Id	Mess_id	Room_id	Year_of_study	Hostel_id

Mess vendor

Id	Mess_id

Mess

Mess_id	No_of_student

Visitors

Id	Fname	Lname	In_time	Out_time	Date

Hostel Manager

Id	Hostel_id

Room

Room_id	Hostel_id

Mobile no

Id	Mob_no

Staff

Id	Hostel_id

Doctor

Id	Degree

Warden

Id	Type

Watchman

Id	Working_time

Hostel

Hostel_id	No_of_student	No_of_Rooms	Name

TASK 2:

For Student table

FD: { {USER_ ID -> HOSTEL_ID ,MESS_ID ,ROOM_ID,YEAR_OF_STUDY},

   {ROOM_ID->HOSTEL_ID}}

1NF:- None of the attributes are multivalued so the table is in 1NF form.

2NF:- Here we are getting partial dependency as HOSTEL_ID can be determined by both USER_ID and ROOM_ID. As {USER_ID, ROOM_ID -> HOSTEL_ID}.

So we remove HOSTEL_ID from Student as we can also get it from the Room table.

3NF:- Table satisfies 2NF and has no Transitive dependencies so it is in 3NF.

BCNF:- Table satisfies 3NF and LHS is super key so it is in BCNF.

Table PERSON, HOSTEL, MESS, ROOM, MOBILENO, MESSVENDOR, HOSTELMANAGER, STAFF, VISITOR, DOCTOR, WARDEN, WATCHMAN already satisfy all the conditions for BCNF.

Task 3:

Person

Id	Fname	Lname	Email_id

Student

Id	Mess_id	Room_id	Year_of_study

Mess vendor

Id	Mess_id

Mess

Mess_id	No_of_student

Visitors

Id	Fname	Lname	In_time	Out_time	Date

Hostel Manager

Id	Hostel_id

Room

Room_id	Hostel_id

Mobile no

Id	Mob_no

Staff

Id	Hostel_id

Doctor

Id	Degree

Warden

Id	Type

Watchman

Id	Working_time

Hostel

Hostel_id	No_of_student	No_of_Rooms	Name