PES UNIVERSITY

B.TECH. (CSE)

V SEMESTER

UE19CS301 – DATABASE MANAGEMENT SYSTEM

ASSIGNMENT-1

SUBMITTED BY

TEAM ID-3

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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PROBLEM STATEMENT

To replicate or mimic an employee's database management system with the following specifications and constraints.

Each **Employee** has a birth-date, ssn , sex, first-name , last-name, address and status. Each **Employee** avails one or more than one **Leave type** and each **Leave type** can be availed by one or more than one **Employee**. Each **Leave Type** has a unique id, type and number of days attribute.

Each **Employee** has one or more than one **Dependen**t. Each **Dependent** has a name, sex, birth date and a relationship attribute and is dependent on a single employee.

Few **Employees** act as supervisors to few other **Employees**. Each supervisee has a single supervisor.

Each **Employee** is assigned a **Salary Range** and each **Salary Range** is assigned to at least one **Employee.** Each **Salary Range** has a unique id, grade, starting salary, ending salary.

Each **Employee** works in one or more than one **Project**. Each **Project** has one or more than one **Employee**. This relationship has start-date and hours as the attributes.

Each **Employee** has one or more than one number of **Skills** and each **Skill** can be possessed by one or more than one **Employee**. Each skill has a unique id , name , technology attribute.

Each **Skill** is needed in one or more than one **Projects.** Each **Project** requires one or more than one **Skill** knowledge.

Each **Project** is assigned to a single **Department**. Few **Departments** are assigned one or more than one **Projects**. Few **Departments** may not

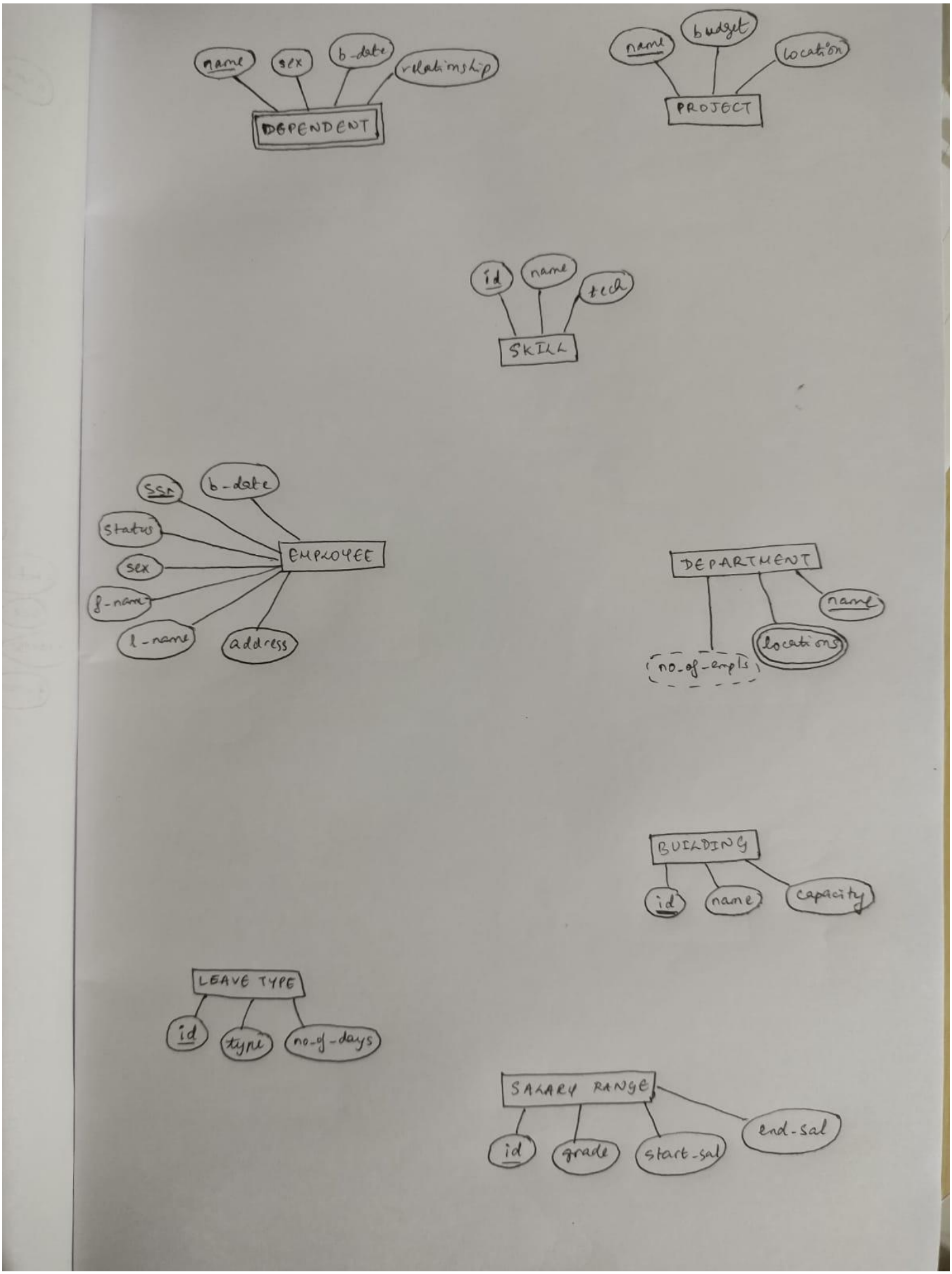
have any **Projects.** Each **Department** has locations, name and number of employee attribute.

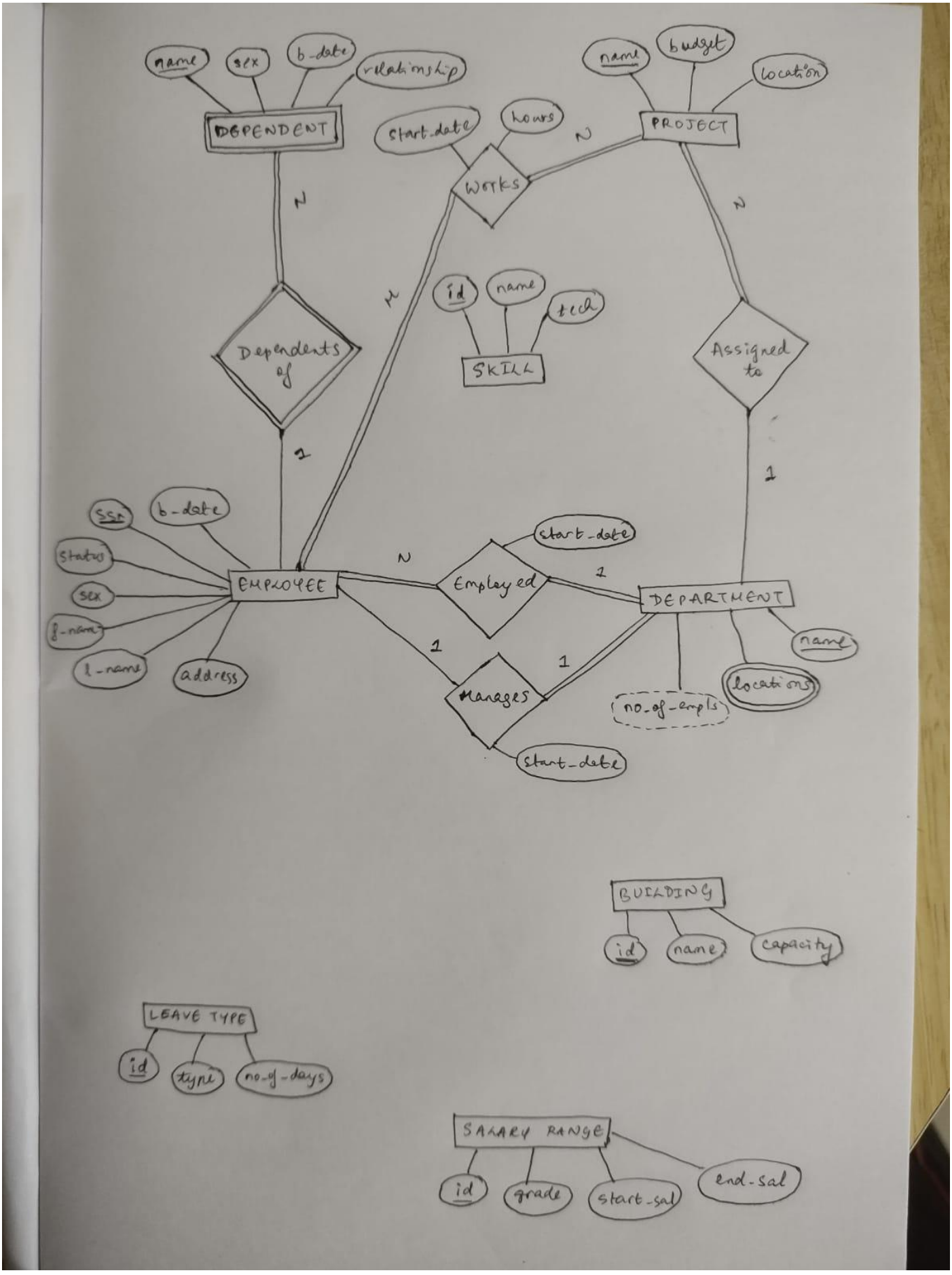
Each **Department** resides in one or more than one **Building**. Each **Building** houses one or more than one **Department**. Each **Building** has an unique id, name and capacity attribute.

Each **Employee** is employed in a single **Department**. Each **Department** has one or more than one **Employee.**

Few **Employees** manage a single **Department**. Every **Department** is managed by a single **Employee**.

STAGES OF ER DIAGRAM




name
sex
b_date
relationship
DEPENDENT
name
budget
location
PROJECT
start_date
hours
WORKS
N
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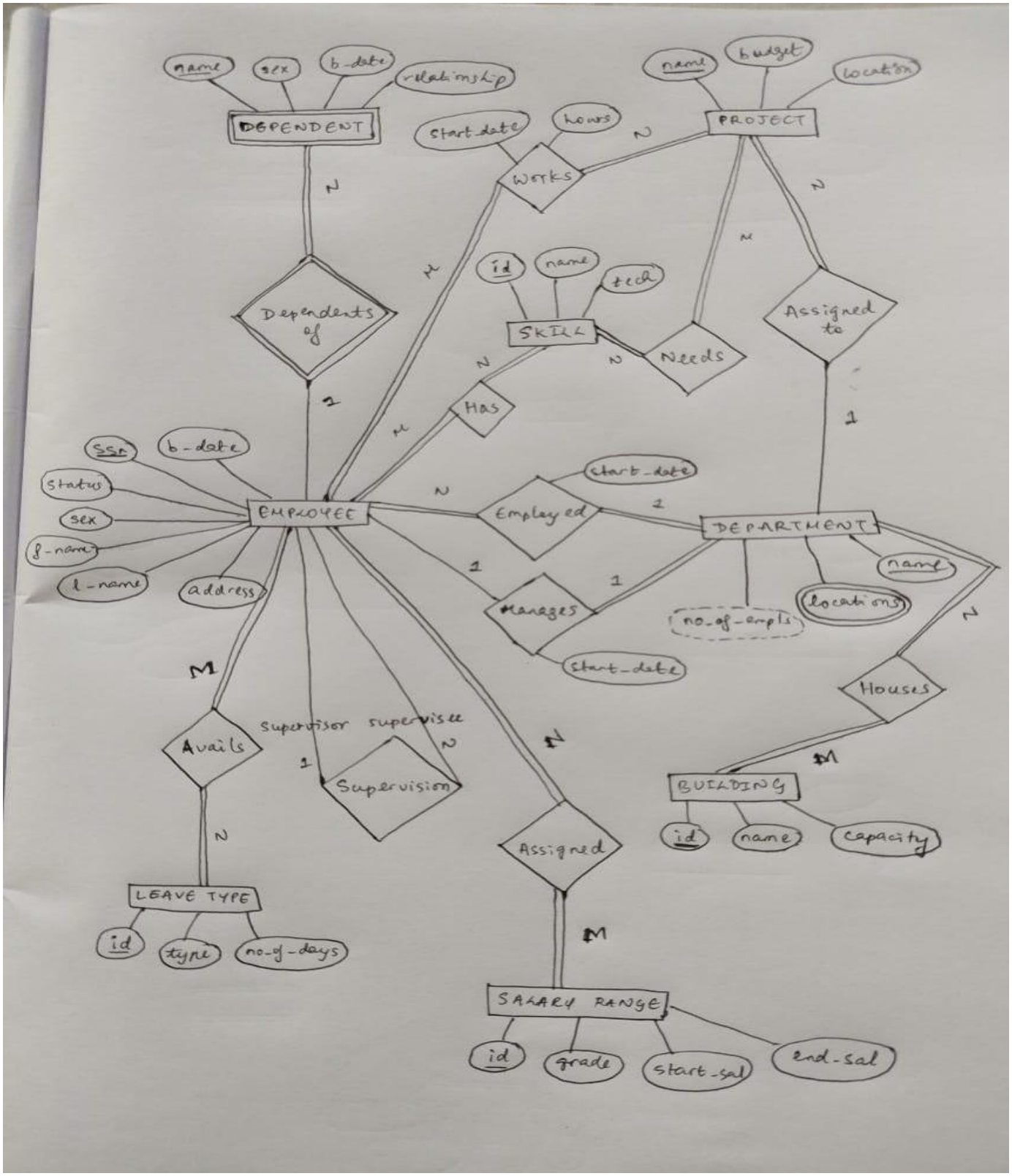
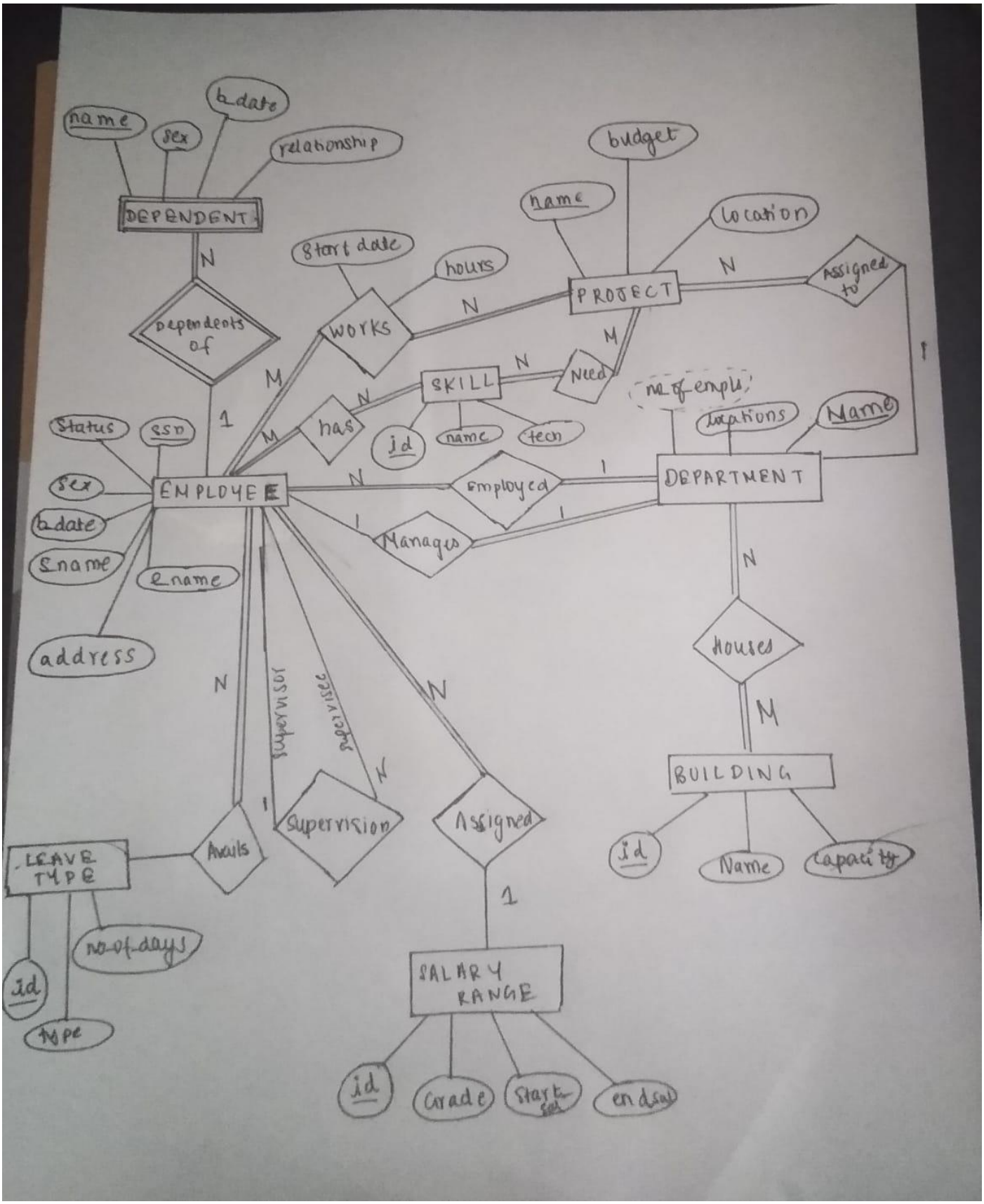
Dependents of
1
id
name
tech
SKILL
Assigned to
1
SSN
b_date
status
sex
f_name
l_name
address
EMPLOYEE
N
start_date
Employed
1
DEPARTMENT
1
1
Manages
start_date
name
locations
no_of_empls
BUILDING
id
name
capacity
LEAVE TYPE
id
type
no_of_days
SALARY RANGE
id
grade
start_sal
end_sal



(AFTER THE THIRD STAGE WE NOTICED FEW DIVERSIONS IN OUR ER DIAGRAM FROM THE PROBLEM STATEMENT , HENCE WE CAME UP WITH THE FINAL CORRECT,NEAT AND REFINED ER DIAGRAM AFTER SOME BRAINSTORMING)

FINAL HARD COPY OF ER DIAGRAM



ER TOOL USAGE

Tool used: **Wondershare EdrawMax**

- EdrawMax is a 2D business technical diagramming software which help create flowcharts, organizational charts, mind map, network diagrams, floor plans, workflow diagrams, business charts, and engineering diagrams.
- The software is simple, intuitive, accurate, and has sufficient capabilities for our purposes.
- With EdrawMax, a team can collaborate and work on a specific task as well as send sharable links. It makes a project to be connected and stand out.
- The drag-and-drop functionality makes it easy to draw any type of diagrams.
- The features, templates and examples provided makes it easy for the user to accomplish any task.

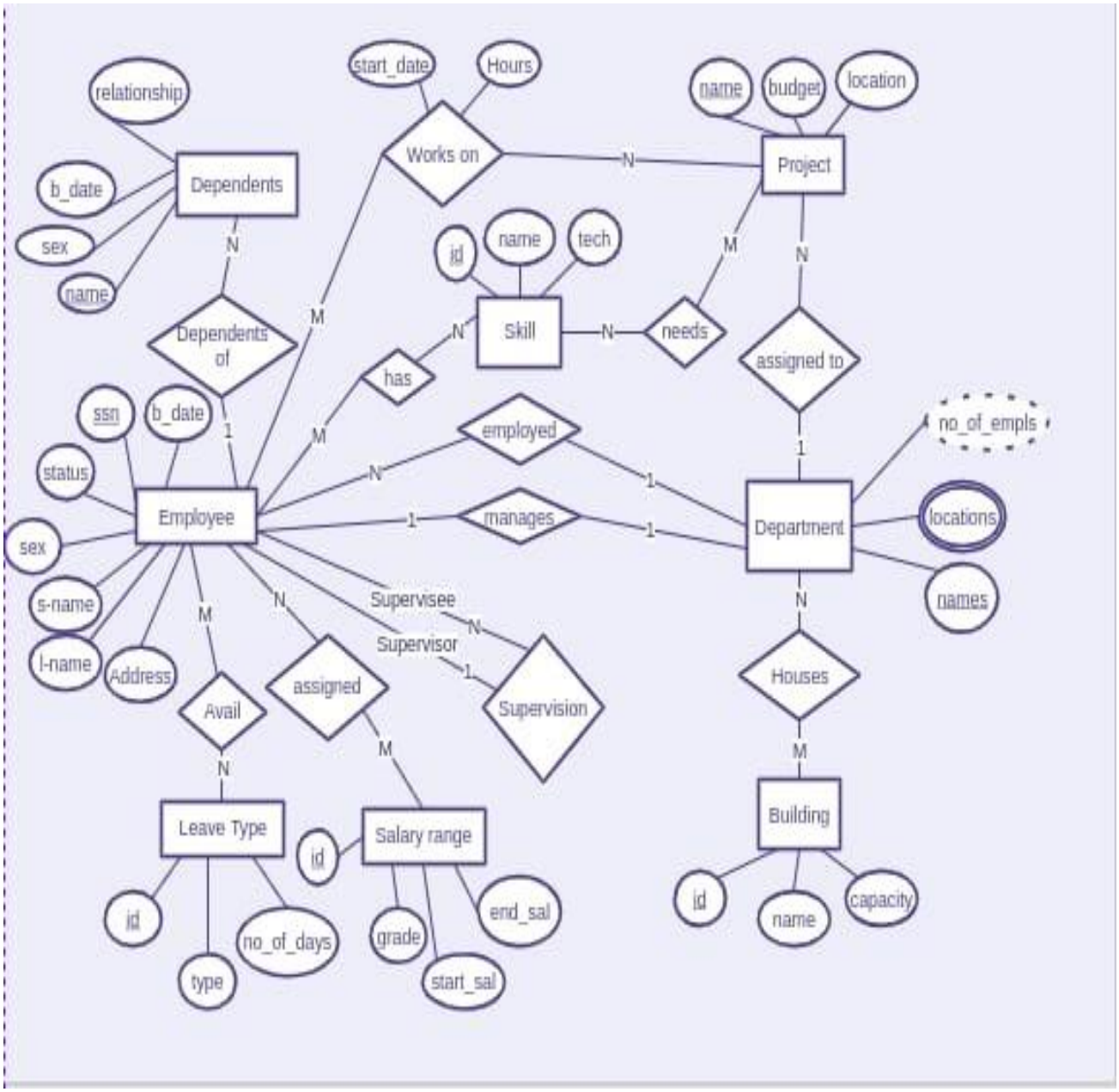
Installation steps:

EdrawMax Online is available on the web and supports a wide range of browsers including Chrome, Firefox, IE, and Safari. Thus not requiring any installations.

References:

https://www.youtube.com/watch?v=T2An2upzloA

FINAL ER DIAGRAM (SOFT COPY)



CONTRIBUTIONS

T. LOHITH SRINIVAS – PES2UG19CS203

Indication of relevant constraints and intricate details through a detailed problem statement. (2 HOURS)

Participation in creation of conceptual model for database design (4 hours)

Preparation of report. (1 hour)

LALITHA SRAVANTI DASU- PES2UG19CS201

Creation of soft copy of ER diagram using EDRAW MAX (3 hours)

Participation in creation of conceptual model for database design (4 hours)

MEENAKSHI SURESH – PES2UG19CS228

Creation of hard copy of ER diagram incrementally. (2.5 hours)

Participation in creation of conceptual model for database design (4 hours)

Participation in the process of deciding a suitable ER tool. (30 minutes)