**Ex.No:5**

**CONSTRUCT A ER MODEL FOR THE APPLICATION TO BE CONSTRUCTED TO A DATABASE**

**AIM:**

To construct a ER model for the application to be constructed to a database.

**HOW TO DRAW AN ENTITY RELATIONSHIP DIAGRAM?:**

1. Determine the Entities in Your ERD.
2. Add Attributes to Each Entity.
3. Define the Relationships Between Entities.
4. Add Cardinality to Every Relationship in your ER Diagram.
5. Finish and Save Your ERD.

## Few Online Entity Relationship Diagram Tools

### Vertabelo

1. Creatly
2. ERDPlus
3. Lucidchart
4. Visual Paradigm Online
5. Draw.io
6. Microsoft Visio
7. Gliffy
8. SqlDBM ER Diagram Online Tool
9. ER Draw Max

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| **S.No.** | **Problem Statement** |
| 1 | 1. Construct an E-R diagram for a hospital with a set of patients and a set of medical doctors. Associate with each patient a log of the various tests and examinations conducted.   **ER Diagram:**     1. Construct appropriate tables for the above ER Diagram :   **Hospital tables:**  patients (patient-id, name, insurance, date-admitted, date-checked-out)  doctors (doctor-id, name, specialization)  test (testid, testname, date, time, result)  doctor-patient (patient-id, doctor-id)  test-log (testid, patient-id)  performed-by (testid, doctor-id) |
| 2 | Design an E-R diagram for keeping track of the exploits of your favourite sports team. You should store the matches played, the scores in each match, the players in each match and individual player statistics for each match. Summary statistics should be modeled as derived attributes  **ER Diagram:** |
| 3 | Design an E-R diagram for bus reservation system.  Bus ER Diagram | EdrawMax Templates |
| 4 | 1. Construct an E-R diagram for a car-insurance company whose customers own one or more cars each. Each car has associated with it zero to any number of recorded accidents.      1. Construct appropriate tables for the above ER Diagram?   **Car insurance tables**:  person (driver-id, name, address)  car (license, year, model)  accident (report-number, date, location)  participated(driver-id, license, report-number, damage-amount) |
| 5 | Design an E-R diagram for University Database  ER Diagram Example: University Database |
| 6 | Consider a database used to record the marks that students get in different exams of different course offerings.   1. Construct an E-R diagram that models exams as entities, and uses a ternary relationship, for the above database.      1. Construct an alternative E-R diagram that uses only a binary relationship between students and course-offerings. Make sure that only one relationship exists between a particular student and course-offering pair, yet you can represent the marks that a student gets in different exams of a course offering.   **ER Diagram:** |
| 7 | Draw the E-R diagram which models an online bookstore. |
| 8 | Consider a university database for the scheduling of classrooms for -final exams. This database could be modeled as the single entity set exam, with attributes course-name, sectionnumber, room-number, and time. Alternatively, one or more additional entity sets could be defined, along with relationship sets to replace some of the attributes of the exam entity set, as   * course with attributes name, department, and c-number * section with attributes s-number and enrollment, and dependent as a weak entity set on course * room with attributes r-number, capacity, and building   Show an E-R diagram illustrating the use of all three additional entity sets listed. |
| 9 | Construct an ER Diagram for Company having following details :   * Company organized into DEPARTMENT. Each department has unique name and a particular employee who manages the department. Start date for the manager is recorded. Department may have several locations. * A department controls a number of PROJECT. Projects have a unique name, number and a single location. * Company’s EMPLOYEE name, ssno, address, salary, sex and birth date are recorded. An employee is assigned to one department, but may work for several projects (not necessarily controlled by her dept). Number of hours/week an employee works on each project is recorded; The immediate supervisor for the employee. * Employee’s DEPENDENT are tracked for health insurance purposes (dependent name, birthdate, relationship to employee). |
| 10 | Design an E-R diagram for Customer Account. |