**Program:- List out the entities and identify the relationship between them. Also, identify related attributes supposed to be recorded while considering the normalization rule.**

**Project Name:- Campus Recruitment System**

**In a Campus Recruitment System, several entities and their relationships can be identified:**

**1. Student:**

**- Attributes: StudentID (Primary Key), Name, Email, Phone, Resume, GPA, Skills, Graduation Year, etc.**

**2. Company:**

**- Attributes: CompanyID (Primary Key), Name, Industry, Location, Contact Person, Contact Email, etc.**

**3. Job Position:**

**- Attributes: JobID (Primary Key), Title, Description, Requirements, Salary, CompanyID (Foreign Key), etc.**

**4. Application:**

**- Attributes: ApplicationID (Primary Key), StudentID (Foreign Key), JobID (Foreign Key), Status, Date Applied, etc.**

**Now, let's identify the relationships between these entities:**

**- Student - Application (Many-to-Many):**

**- A student can apply for multiple job positions.**

**- A job position can have multiple applicants.**

**- Company - Job Position (One-to-Many):**

**- A company can post multiple job positions.**

**- Each job position is associated with only one company.**

**- Student - Job Position (Many-to-Many):**

**- A student can be interested in or qualified for multiple job positions.**

**- A job position can attract interest from multiple students.**

**Now, considering normalization rules, you would want to ensure that data is organized efficiently and redundancies are minimized. Here's a breakdown of how the entities can be normalized:**

**- 1st Normal Form (1NF): Ensure that each attribute contains only atomic values (no repeating groups or arrays). All attributes should be indivisible.**

**- 2nd Normal Form (2NF): Ensure that the table is in 1NF and all non-prime attributes are fully functionally dependent on the primary key.**

**- 3rd Normal Form (3NF): Ensure that the table is in 2NF, and there are no transitive dependencies.**

**- BCNF (Boyce-Codd Normal Form): Ensure that the table is in 3NF and there are no non-trivial dependencies between candidate keys.**