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Assignment No. 1

Q 1] Cardinality ratios often dedicated design of a database. The cardinality ratio depends on real-world meaning of entity type involved and defined by specific application. For following binary relationships. suggest cardinality ratio based on common sence meaning of entity type State assumptions you state.

Ans.

Entity 1	Condition (Cardinality Ratio)	Entity 2
Student	M : M	Teacher
Student	M : M	Class
Class	M : 1	Instructor
Country	1 : 1	Current-President
Student	1 : 1	Aadhar_No.

Explanation -

1) Many Students have a single Teacher and Many teacher teaches single student. So Many-to-Many Ratio.
2) Many student take single class and many class have every students. Thus Many-to-Many Ratio.
3) One class have only one Instructor while same instructor for many classes Thus, Many-to-One Ratio.

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4) Every country have unique presidence and presidence is only for single country So, One-to-one ratio.

5) Student have unique aadhar-no and aadhar-no is associated with particular student only. So One-to-One ratio.

Q.2] Consider following statement for database that keeps track of business trip of salesperson in sales office -

Salesperson (SSN, Name, start-year, Dept-no)
Trip (SSN, from-city, to-city, Departure-date, return-date, Trip-id)
Expense (Trip-id, Account #, Amount)
A trip can charged to one or more accounts
Specify foreign keys for this schema, stating any assumptions you make.

Ans. For Schema -
Salesperson, Trip, Expense
The foreign keys are -
1) SSN → For Salesperson and Trip.
2) Trip-id → For Trip and Expense.