



SNS COLLEGE OF TECHNOLOGY, COIMBATORE-35

(AN AUTONOMOUS INSTITUTION)



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

19CST202-DATABASE MANAGEMENT SYSTEM

UNIT-III

Database Design

Topic: Join Dependency

Join Dependency:

- Join decomposition is a further generalization of Multivalued dependencies.
- If the join of R1 and R2 over C is equal to relation R, then we can say that a join dependency (JD) exists.
- Where R1 and R2 are the decompositions R1(A, B, C) and R2(C, D) of a given relations R (A, B, C, D).
- Alternatively, R1 and R2 are a lossless decomposition of R.
- A JD \bowtie {R1, R2,..., Rn} is said to hold over a relation R if R1, R2,....., Rn is a lossless-join decomposition.
- The *(A, B, C, D), (C, D) will be a JD of R if the join of join's attribute is equal to the relation R.
- Here, *(R1, R2, R3) is used to indicate that relation R1, R2, R3 and so on are a JD of R.

Example 1

<Student>

Stu_Name	Stu_Skills	Stu_Job (Assigned Work)
Tag	Marketing	GK001

Barry	PR	GK002
Paulo	Graphic Designing	GK003

We can decompose the table given above into these three tables given below. And thus, it is not in the Fifth Normal Form.

<Student_Skills>

Stu_Name	Stu_Skills
Tag	Marketing
Barry	PR
Paulo	Graphic Designing

<Student_Job>

Stu_Name	Stu_Job
Tag	GK001
Barry	GK002
Paulo	GK002

<Job_Skills>

Stu_Skills	Stu_Job
Marketing	GK001
PR	GK002
Graphic Designing	GK003

Our Join Dependency would be:

{(Stu_Name, Stu_Skills), (Stu_Name, Stu_Job), (Stu_Skills, Stu_Job)}