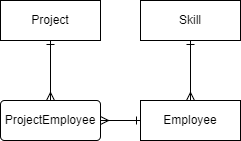
1. ProjectID, EmployeeID [1]
2. Any 3
   * No
   * There is partial dependency
   * ProjectTitle is dependent only on the ProjectID
   * EmployeeName, SkillID, SkillName, CostPerHour is dependent only on the Em ployeeID
   * Only Hours Worked is dependent on the primary key (ProjectID, EmployeeID)
3. Any 3
   * Insert anomaly, when a new employee joins the company, he may not be assigned a project, a record cannot be created since the ProjectID is part of the Primary Key.
   * Delete anomaly, if an employee works on only 1 project and the project is deleted from the table because it has been cancelled, the employee data is deleted as well
   * Update anomaly, when the Cost Per Hour needs to be updated, there are multiple records that may need to be modified, if some of the records are not modified, this will result in data inconsistency



1m – Project, Employee, Skill

1m – ProjectEmployee

1m- relationship between Employee, Skill

2m – Project, ProjectEmployee, Employee relationships

* + Project( ProjectID, ProjectTitle)
  + Skill (SkillID, SkillName, CostPerHour)
  + Employee(EmployeeID, EmployeeName, SkillID\*)
  + ProjectEmployee(ProjectID\*, EmployeeID\*, HoursWorked)
* All attributes captured [2], -1 for 1 missing attribute
* All PKs correct [1]
* All FKs correct[1]

1. Add a FK attribute ProjectManager in the Project relation that references EmployeeId in the Employee relation
   * Add the relation Customer(CustomerRef,Name, Address) [1]
   * Add a FK reference on the Project relation to reference the Customer table using the CustomerRef attribute. [1]is
   * Add 2 attributes, ProjectStartDate and ProjectEndDate in the Project relation. [1]
2. When the carpenters’ hour cost is updated after a carpenter has been asigned to a project, the cost computed when the invoice is billed to the customer is not correct. [2]
3. The cost incured by a customer should be calculated based on the CostPerHour of the different skills at the beginning of the project. This can done by adding an attribute CostPerHour in the ProjectEmployee relations. This attribute should not be updated when the CostPerHour is updated in the Skill relation.

SELECT \* FROM Employee

INNER JOIN Skill ON Employee.SkillID = Skill.SkillID

WHERE Skill.SkillName = 'Carpentry'



SELECT Project.ProjectID, Project.ProjectTitle, SUM(ProjectEmployee.HoursWork) 'Total Hours' FROM Project

INNER JOIN ProjectEmployee ON Project.ProjectID = ProjectEmployee.ProjectID

WHERE Project.ProjectID = 1