# Part A

1. the column for the hours would be an updating anomaly considering any contract whether its full time, part time, temporary or volunteer has no consistent hour placement. A full-time employee can work 10 or 40 hrs depending on the entry so if you were trying to insert a new employee you would struggle to find the value that you are meant to insert into the table.

2. ID + First Name + Last Name + Unit + Gender + Date Joined + Date Left + Contract ID

Contract ID + Contract Name + Hours

3. The foreign key is the contract id and is used to reference what contract type and statistics for each contract type for each employee reducing the amount of redundant data and data not updated.

4. The last name is not a unique since a family of multiple people have the same last name making it difficult to reference one specific person

5. Because it is only filled out when the employee has left the company. Considering some of the employees haven't left yet it makes sense that the column is empty for some employees

6. entities in the database are identified using the primary key as a unique identifier. it allows other tables to reference the data and reduces redundant data.
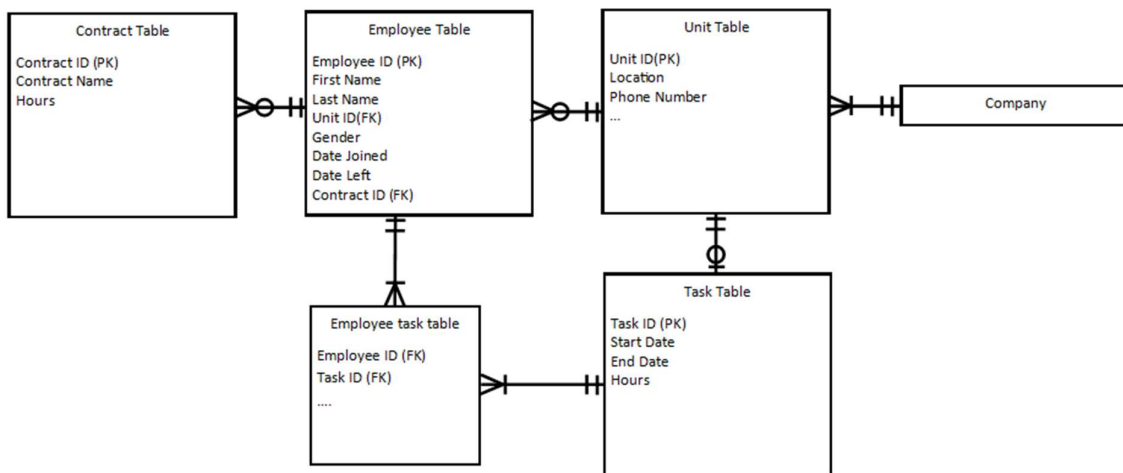
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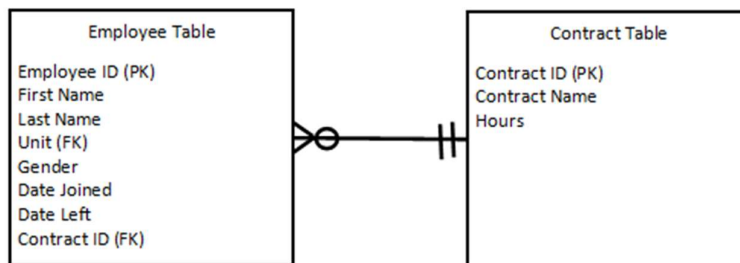
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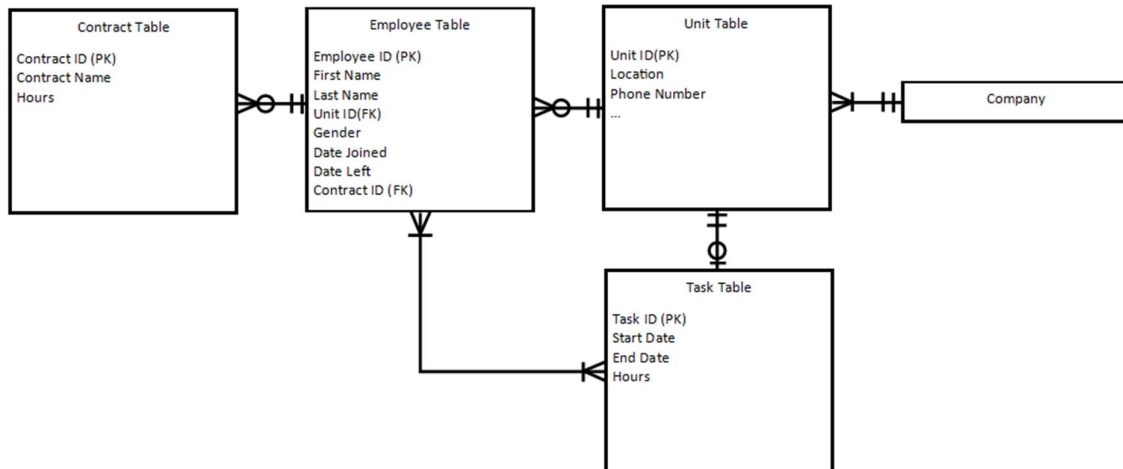
9.

Part B

1. Employee = Emp_ID + Emp_Name + Emp_Address + {Task_Allocated} + Specilisation + Dept_ID + Dept_Name

   The Employee can have multiple tasks meaning the Task_Allocated column has multiple values for on entity

2. Employee = Emp_ID + Emp_Name + Emp_Address + Specialization + Dept_ID + Dept_Name

   Task = Task_ID + Emp_ID + Task_Allocated

   I removed the repeating groups and created another table to replace it this converts it to 1NF

3. Partial Dependency

   Is when not prime value is relying on part of a composite key. The Department name (Dept_Name) relies on the Department ID (Dept_ID) for its data there for is partial dependency

   Transitive dependency

Is when Not prime Values relying on other not prime values. In this DDF the column Specilisation relies on the employee's name (Emp_Name) for its value

4. Employee = Emp_ID + Emp_Name + Emp_Address + Specilisation + Dept_ID

   Department = Dept_ID + Dept_Name

   Task = Task_ID + Emp_ID + Task_Allocated

   Created a new group named Department which include the Dept_ID and Dept_name entities this removes the partial dependency. Dept_ID is still included in the Employee table as a foreign key for referencing their Department.

5. Employee = Emp_ID + Emp_Name + Emp_Address + Spec_ID + Dept_ID

   Department = Dept_ID + Dept_Name

   Task = Task_ID + Emp_ID + Task_Allocated

   Specilisation = Spec_ID + Spec_Name

   I removed the transitive dependency by creating a new table for the specilisation using Spec_ID as a foreign key in the Employee table and using Spec_Name as the replacement for the Specilisation.