**Lab 1 : Report**

**1: ER Diagram and Class Diagram**

**ER Diagram**

Above problem can be solved in two ways.

**Recursion model**:

Attached is the simple ER Schema which can be used to implement the problem.



The above diagram can be further generalized by categorizing the relations into a separate Entity and Roles into another.

This new model gives the advantage of adding new roles and responsibilities easily, without changing schema. Here the roles (Father, Mother, Husband, and Wife) can be listed in the roles table, and responsibilities (Parent, spouse) can be listed in on the responsibilities table. The responsibilities can be determined based on the gender of the person.



A person can have zero or many responsibilities, and a responsibility has one to one role.

**Class Diagram**

Husband and wife classes implement Person interface, where marriage is a composition connector between husband and wife. These two classes are extended by Father and Mother respectively based on “Has child” condition an association. Child class has a dependency on Father and Mother Classes and is represented by dependency relationship.

**2: Git HUB account**

**3: ScrumDO account**