Schema Design

Table 1:

Schema: FamilyMemmbers(ID int, MemberAge int, MemberName varchar(20))

Super keys: (ID, MemberAge, MemberName), (ID, MemberAge), (ID, MemberName), (MemberAge, MemberName), (ID), (MemberAge), (MemberName)

Candidate Keys: (ID, MemberAge), (ID, MemberName), (ID)

Primary Key: (ID)

- ID is a unique identifier for each member of the family, so it is the best choice for the primary key.

Table 2:

Schema: DestinationChoices(FamilyMemberID int, DestinationName varchar(50), DestinationZipCode int)

Super keys: (FamilyMemberID, DestinationName, DestinationZipCode), (FamilyMemberID, DestinationName), (FamilyMemberID, DestinationZipCode), (DestinationName, DestinationZipCode), (FamilyMemberID), (DestinationName), (DestinationZipCode)

Candidate Keys: (FamilyMemberID, DestinationZipCode), (DestinationName, DestinationZipCode), (FamilyMemberID), (DestinationZipCode)

Primary Key: (FamilyMemberID)

- (FamilyMemberID) is a unique identifier for each family member and their choice. The zip code was one that I considered though it is not unique due to two members being able to choose an activity in the same destination.

Table 3:

Schema: DestinationChoices(FamilyMemberID int, Activity varchar(50))

Super keys: (FamilyMemberID, Activity), (FamilyMemberID), (Activity)

Candidate Keys: (FamilyMemberID, Activity), (FamilyMemberID)

Primary Key: (FamilyMemberID)

- FamilyMemberID is a unique identifier value similar to the other relation tables. This makes it the best choice for the primary key.