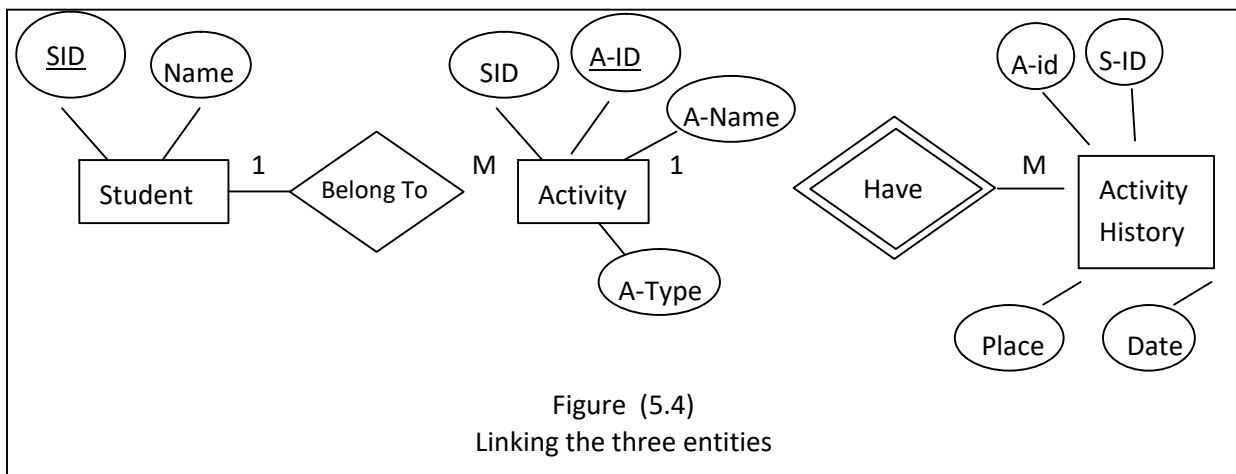


Figure (5.4) shows how the new entity , Activity History , is linked with activity entity



In the Activity History, there is no primary key, so it is a weak entity. The weak entity to be meaningful , it must be part of a one-to-many relationship. The weak entity is depends on the strong entity , that means if the strong entity is delete then the weak entity must be deleted.

In the example of figure (5.4) if the activity is deleted then all the history for that activity must be deleted.

But if the history is deleted , the activity no need to be deleted.

The DOMINANT entity is the strong entity.

The SUBORDINATE entity is the weak entity.

The weak entity in the ER diagram is indicated by a double outline box , and the corresponding relationship by a double outline diamond.

5.4 More Designs Considerations

In this section , we consider how a database designer may select from the wide range of alternatives . Among the decision to be made are the following:

- weather to use an attribute or an entity to represent an object : consider the entity **employee** with attribute **employee-name** .

if we want to add telephone number to the employee:

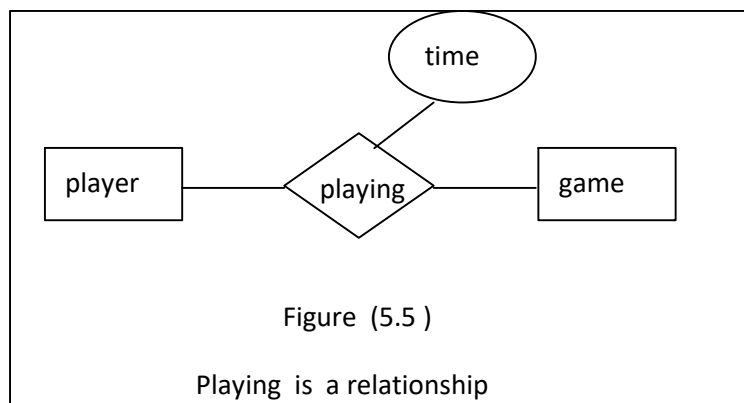
case 1 : another attribute ,**telephone-number** , is added to the entity. Case2 : the **telephone** can be consider as an entity in its own with an attribute : **telephone-number** and **location**, ant the two entities are connected with some relation.

In the first case every employee has one telephone number.
In the second case , each employee has several telephone numbers

- whether a real world concept is expressed by an entity or by a relationship . For example a **playing** can be modeled as an entity, or it can be a relation between **player** and **game**, with playing-time attribute.

If every game is played by one player then playing is better be a relationship as in figure (5.5)

If several players playing the same game then we must replicate the playing information (time) for each player , and the problems of repetition and updating are arise.



If the information of the playing is updated then this update must be done to each player.