**Assignment 1**

**Q1: What is Referential integrity rule 1**

It is the accuracy and consistency of data within a relationship. This is achieved by having the foreign key (in the associated table) reference a primary key value (in the primary or parent table). As a result of this we need to ensure that data on both sides of the relationship remain intact.

**Q2: What is Referential integrity rule 2**

Referential integrity requires that, whenever a foreign key value is used it must reference a valid and existing primary key in that parent table.

This rule has three practical implications:

1. Before a data is entered in a foreign key column, one must ensure that the same data inserted already existed in the corresponding primary key column
2. On deleting or updating a value in a primary key, one need to update or delete the same data in the corresponding foreign key column simultaneously.
3. Do not update a foreign key value into a non-existent value

**Q3: What is Mapping Cardinality :**

This refers to the relationship between two tables. Examples of the various relationship types are:

One-to-One: Here a single row in a table is associated with a single row of another table. A person and passport table because a passport can only be assigned to a person at a time.

One-to-Many: Here a single row of first table associates with more than one rows of second table. For examples when a customer orders more than one item.

Many-Many: Many rows of a table associates with many rows of another table. When a student takes many courses at a time and same course can be taken by many students.

**Q4: What is Primary Key and Foreign Key:**

Primary Key is a uniquely identifier of a record in a table, this means there can only be one primary key in a table and cannot be null, they are physically organized in the sequence of clustered index. Example is your social security number or your driver license number

Foreign Key is a field in the table that is primary key in another, there can be more than one foreign key in a table, and can accept multiple null value, they do not automatically create an index, clustered or non-clustered, and can be manually created. If 15 is a primary key and same appears in a second table with other numbers like :15,17. 20. 22 and 25.