QUESTION 4

i.) Join is an operation in relational databases that combines rows from two or more tables based on a related column between them

Types

Inner Join: Combines rows from two tables where there is a match in the related column.

Left Join: Combines rows from the left table with all matching rows from the right table. If there is no match, the result will contain NULL values.

Right Join: Combines rows from the right table with all matching rows from the left table. If there is no match, the result will contain NULL values.

Full Join: Combines all rows from both tables, with NULL values in the columns where there is no match.

ii.) Relational Model: Organizes data into tables with rows and columns, where each column represents a specific attribute of an entity. The relationships between tables are established through foreign keys.

Hierarchical Model: Organizes data in a tree-like structure, where each record has a single parent and can have multiple children. It is commonly used in file systems and organizational structures.

Network Model: Organizes data in a graph-like structure, where each record can have multiple parents and children. It is commonly used in legacy systems and is less popular today.

III.) Selection: Returns a subset of rows from a table that meet a specific condition.

Projection: Returns a subset of columns from a table.

Cartesian Product: Returns the combination of all possible combinations of rows from two tables.

Join: Combines rows from two or more tables based on a related column between them.