Introduction to Indexes

Sr. No.	Assignment Question
1.	Houston State Library is one of the renowned libraries in Houston, Texas. The library has a stock of around 10,00000 books of different genres. The library issue books to the students of the college nearby. With the inflow of students coming to the library growing exponentially, Houston State Library has decided to automate the entire process of issuing books to the students. The library has increased the quantity of each book by 10 copies, depending upon the demand made by the students. 1. Create a database named **HoustonStateLibrary** to store the details of books in the Library. Create a table named **BooksMaster** to store the details of the books in the library. ➢ BooksMaster

Field Name	Data type	Key Field	Description
BookCode	Varchar(50)	Primary Key	Stores book code of the book
Title	Varchar(MAX)		Stores the book title
ISBN	Varchar(50)		Stores the ISBN of the book
Author	Char (30)		Stores author name of the book
Price	Money		Stores price of the book
Publisher	Char(30)		Stores publisher name of the book
NoOfPages	Numeric(10,0)		Stores number of pages in the book

Table 2.1: BooksMaster Table

2. Create a table named **StudentMaster** to store the details of the students who issue a book from the library. Follow the specifications in the table shown below:

➢ StudentMaster

Field Name	Data type	Key Field	Description
BookCode	Varchar(50)	Primary Key	Stores book code of the book
MembershipNo	Varchar(10)	Primary Key	Stores the membership number
Name	Char(30)		Stores the name of the student
Age	int		Stores age of the student

Field Name	Data type	Key Field	Description
Address	Varchar(MAX)		Stores address of the student
DateOfIssue	Datetime		Stores date of issue of the book
DateOfReturn	Datetime		Stores date of return of the book
ISBN	Varchar(50)		Stores the ISBN of the book
Title	Varchar(MAX)		Stores the book title

Table 2.2: StudentMaster Table

3. Create a suitable primary key for the table **BooksMaster**. Ensure that there is a unique book code for every book. Books with similar title and author but with a different book code and a different ISBN number can be entered into the table.

4. Create a foreign key for the table **StudentMaster**. Use BookCode as the foreign key for the **StudentMaster** table.

5. Create a clustered index named IX_Title on the Title column in the **BooksMaster** table.

6. The Houston State Library Management wants to track the number of books issued to a particular student. Create a nonclustered index IX_MemberNo on the table **StudentMaster** table.