Maintaining Indexes

Sr. No.	Assignment Question
1.	**RiverPlate University is an accredited European university, which offers a wide range of courses to its students. It helps the students to receive the very best in terms of education and course content.** **Now, the university management is introducing *Class Assignment System software*, which is an add-on to the traditional Assignment Control System. This allows assigning and monitoring the student-assignment-department details on a class-by-class basis. The software controls and provides accurate, real-time information from a central server and database to all of the educators and constituents responsible for success of the students.** **Hence, to create such an application, a database is required which stores details of assignments undertaken by students. The database should have the following tables:** **Ø Student Table:**

Field Name	Data Type	Key Field	Description
StudentNo	Int	Primary Key	Stores student number
StudentName	Char (30)		Stores student name
StudentAddress	Varchar(Max)		Stores address of the student
PhoneNo	Int		Stores phone number of the student

Table 4.1: Student Table

Ø Department Table:

Field Name	Data Type	Key Field	Description
DeptNo	Int	Primary Key	Stores department number
DeptName	Char (30)		Stores department name
DeptManagerNo	Int		Stores department manager number
ManagerName	Char(30)		Stores manager name

Table 4.2: Department Table

Ø Assignment table:

Field Name	Data Type	Key Field	Description
AssignmentNo	Int	Primary Key	Stores assignment number

AssignmentName	Char (30)		Stores assignment name
Description	Varchar(Max)		Stores description
AssignmentManagerNo	Int		Stores manager number

Table 4.3: Assignment Table

Ø Works_Assign table:

Field Name	Data Type	Key Field	Description
JobID	Int	Primary Key	Stores job id
StudentNo	Int		Stores student number
AssignmentNo	Int		Stores assignment number
TotalHours	Int		Stores total hours allotted
JobDetails	XML		Stores the details of the work assigned

Table 4.4: Works_Assign Table

Here, in this table, JobID is specified as primary key. StudentNo is a foreign key from the Student table and AssignmentNo is a foreign key from the Assignment table.

a) The management of the RiverPlate University wants to display the name of the students and their student number. Create a clustered index IX_Student for the StudentNo column in the Student table, so that while the index is being created, the tables and the indexes can be used for queries and data modification.

b) Alter and rebuild the index IX_Student created on the Student table, so that the tables and indexes cannot be used for queries and data modification.

c) The Management at the RiverPlate University wants to retrieve the name of the Department, department manager and the department number. Create a nonclustered index IX_Dept on the Department table using the key column DeptNo and two non-key columns DeptName and DeptManagerNo.

d) Create a partitioned index named IX_Assign on the Assignment table using the PS_Assignment_Details partition scheme.

e) The University wants to retrieve the assignments which are assigned to the students. Create a primary XML index PXML_Works on the JobID column of the Works_Assign table.