

Types of Indexes

Sr. No.	Assignment Question																				
1.	<p>Pan World Tours and Travels, founded in 1998, is one of the most popular travel agencies in the heart of North America. This travel agency has built a strong reputation as an outstanding travel agency in terms of location and advertising visibility. As the company's reputation has grown, it has successfully entered several American markets. It offers travelers a chance to discover the marvels of western Canada, and American sights as Yellowstone Park, the Grand Canyon, Zion National Park, Bryce Canyon National Park, and Alaska.</p> <p>Pan World Tours and Travels operates all year round, offering programs that are customized to the various seasons. In addition to its regular tours, Pan World Tours and Travels now offers visitors the facility of booking and staying in luxurious hotels of America.</p> <p>Hence, to maintain the growing hotel booking business, a database is required for a smoother and easier operation. The database should have the following details:</p> <ol style="list-style-type: none">1. Hotel: This unit gives the list of hotels in different cities of United States of America.2. Room: This unit is involved with all the room information, along with their prices for the different types of rooms in the list of hotels provided.3. Booking: This unit is mostly concerned with all the booking related details for the rooms of corresponding hotels.4. Tourist: This lists out all the required information about the tourists who have booked the hotels through Pan World Travel agency. <p>Create a database named PanWorld with the following tables:</p> <p>➤ Hotel table:</p> <table><tr><th>Field Name</th><th>Data Type</th><th>Key Field</th><th>Description</th></tr><tr><td>HotelNo</td><td>Int</td><td>Primary Key</td><td>Stores the hotel identification number</td></tr><tr><td>HotelName</td><td>Char</td><td></td><td>Stores the hotel name</td></tr><tr><td>City</td><td>Char</td><td></td><td>Stores the city name</td></tr><tr><td>Address</td><td>Varchar(MAX)</td><td></td><td>Stores the address</td></tr></table> <p style="text-align: center;">Table 3.1: Hotel Table</p>	Field Name	Data Type	Key Field	Description	HotelNo	Int	Primary Key	Stores the hotel identification number	HotelName	Char		Stores the hotel name	City	Char		Stores the city name	Address	Varchar(MAX)		Stores the address
Field Name	Data Type	Key Field	Description																		
HotelNo	Int	Primary Key	Stores the hotel identification number																		
HotelName	Char		Stores the hotel name																		
City	Char		Stores the city name																		
Address	Varchar(MAX)		Stores the address																		

➤ Room table:

Field Name	Data Type	Key Field	Description
RoomNo	Int	Primary key	Stores the room number
HotelNo	Char		Stores hotel number
Type	Char		Stores room type

Table 3.2: Room Table

➤ Tourist table:

Field Name	Data Type	Key Field	Description
TouristId	Char	Primary key	Stores tourist id
TouristName	Char		Stores tourist name
TouristAddress	Char		Stores address
ContactNo	Int		Stores contact number of the tourist

Table 3.3: Tourist Table

➤ Booking table:

Field Name	Data Type	Key Field	Description
HotelNo	Int	Foreign key	Stores hotel number
TouristId	Char	Foreign key	Stores tourist id
DateFrom	Datetime		Stores date on which to book the room
DateTo	Datetime		Stores upto what date the room is to be booked
Room No	Int	Foreign key	Stores room number
TouristName	Char		Stores tourist name
BookingNo	Int		Stores booking number of the tourist

Table 3.4: Booking Table

Here, TouristId is a foreign key from Tourist table and (HotelNo, RoomNo) is a foreign key from Room table.

1. Pan World Tours and Travels wants to display all the hotels along with the names of the cities where the hotels are situated. Create a clustered index IX_Hotels on the HotelNo column in the Hotel table.

	<ol style="list-style-type: none">2. Pan World Tours and Travels wants to keep track of the all the bookings made in a particular hotel. Create a clustered index on IX_Booking on the BookingNo column in the Booking table.3. The company wants to search for a particular room in a hotel. To search for a particular room, create a composite index IX_Room for the columns RoomNo and HotelNo in the Room table.
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