**Answer 1:** First Database is created and then we are using the same to create tables.

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| **Query of Answer 1** |
| Create database ManjinderADTLab3;  use ManjinderADTLab3; |

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**Answer 2** In this, we are creating tables and then records are inserted. In the end, displaying table records.

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| **Query of Answer 2** |
| -- Creation of "ManjinderStudents" table.  CREATE TABLE ManjinderStudents (  StudentID INT PRIMARY KEY,  FullName VARCHAR(100),  Email VARCHAR(100),  TotalCredits INT  );  -- Creation of "ManjinderCourses" table.  CREATE TABLE ManjinderCourses (  CourseID INT PRIMARY KEY,  CourseName VARCHAR(100),  Instructor VARCHAR(100),  CourseCredits INT,  AvailableSeats INT  );  -- Creation of "ManjinderStudentRegistration" table.  CREATE TABLE ManjinderStudentRegistration (  RegistrationID INT PRIMARY KEY Identity(1,1),  StudentID INT,  CourseID INT,  FOREIGN KEY (StudentID) REFERENCES ManjinderStudents(StudentID),  FOREIGN KEY (CourseID) REFERENCES ManjinderCourses(CourseID)  );  -- Inserting sample data into ManjinderStudents table  INSERT INTO ManjinderStudents(StudentID, FullName, Email, TotalCredits)  VALUES  (1, 'John Doe', 'john.doe@example.com', 0),  (2, 'Jane Smith', 'jane.smith@example.com', 0),  (3, 'Michael Johnson', 'michael.johnson@example.com', 0);  -- Inserting sample data into ManjinderCourses table  INSERT INTO ManjinderCourses (CourseID, CourseName, Instructor, CourseCredits, AvailableSeats)  VALUES  (1, 'Mathematics', 'Professor Anderson', 3, 1),  (2, 'English Literature', 'Professor Thompson', 4, 20),  (3, 'Computer Science', 'Professor Roberts', 5, 10);    -- Displaying data in Tables after creation and insertion operation.  select \* from ManjinderStudents;  select \* from ManjinderCourses;  select \* from ManjinderStudentRegistration; |

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| **Output Screenshots of Answer 2** |
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**Answer 3 :** In this answer, we are creating stored procedure and if the course has seats available then we are assigning course to the student and reducing seats by 1 and a new record is inserted to the **ManjinderStudentRegistration** table and the other 2 tables(**ManjinderCourses, ManjinderStudents**) are updated.

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| **Query of Answer 3** |
| -- ANSWER 3: Creation of Stored Procedure  CREATE PROCEDURE Manjinder\_spInsertStudentRegistration  @StudentID INT,  @CourseID INT  AS  BEGIN  SET NOCOUNT ON;  -- It will show the beginning of transaction.  BEGIN TRANSACTION;  -- It will check if the seats are available in the course.  DECLARE @AvailableSeats INT;  SELECT @AvailableSeats = AvailableSeats  FROM ManjinderCourses  WHERE CourseID = @CourseID;  -- If seats are not available then rollback transaction will be executed and then the appropriate return error message will be displayed.  IF @AvailableSeats <= 0  BEGIN  ROLLBACK TRANSACTION;  PRINT 'Course is full. Registration failed.';  RETURN  END;  -- Decrease the availability of seats in the Courses table if seats are available.  UPDATE ManjinderCourses  SET AvailableSeats = AvailableSeats - 1  WHERE CourseID = @CourseID;  -- Add course credits to the student's total credits in the Students table.  UPDATE ManjinderStudents  SET TotalCredits = TotalCredits + (  SELECT CourseCredits  FROM ManjinderCourses  WHERE CourseID = @CourseID  )  WHERE StudentID = @StudentID;  -- Insert the record into the StudentRegistration table  INSERT INTO ManjinderStudentRegistration (StudentID, CourseID)  VALUES (@StudentID, @CourseID);  -- Commit the transaction  COMMIT TRANSACTION;  PRINT 'Registration successful.';  END; |

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| **Output Screenshot of Answer 3** |
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**Answer 4**

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| **Query of Answer 4** |
| -- Answer 4  -- Register Jane Smith for Mathematics.  EXEC Manjinder\_spInsertStudentRegistration @StudentID = 2, @CourseID = 1;  -- Register Michael Johnson for Computer Science.  EXEC Manjinder\_spInsertStudentRegistration @StudentID = 3, @CourseID = 3;  -- Register John Doe for Mathematics.  EXEC Manjinder\_spInsertStudentRegistration @StudentID = 1, @CourseID = 1;  select \* from ManjinderStudents;  select \* from ManjinderCourses;  select \* from ManjinderStudentRegistration; |

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| **Output Screenshot of Answer 4** |
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Displaying results in the end to verify the above queries execution using select statements

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| **Output Screenshot of Answer 4(Contd.)** |
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**As the queries execution is successful and based on stored procedures, we can conclude results are accurate as per requirements.**