**Assignment 1**

**(Total: 10 points)**

First, create a database named “**Student**”.

Then inside the **Student** database, execute the following four scripts step by step:

Step 1. Using SSMS, create **IT471Student** table using the following SQL script.

|  |
| --- |
| CREATE TABLE [IT471Student](  [StudentID] [nvarchar](50) NOT NULL,  [FirstName] [nvarchar](50) NULL,  [LastName] [nvarchar](50) NULL,  [Age] [int] NULL,  [FinalGrade] [float] NULL,  PRIMARY KEY ([StudentID])  ); |

Step 2. Using SSMS, create **IT471Assignment** table using the following SQL script.

|  |
| --- |
| CREATE TABLE [IT471Assignment](  [AssignmentID] [nvarchar](50) NOT NULL,  [AssignmentName] [nvarchar](50) NULL,  [StudentID] [nvarchar](50) NOT NULL,  [AssignmentScore] [float] NULL,  [DueDate] [datetime2] NULL,  [SubmissionTime] [datetime2] NULL,  PRIMARY KEY ([AssignmentID]),  FOREIGN KEY ([StudentID]) REFERENCES [IT471Student] ([StudentID])  ); |

Step 3. Using SSMS, insert some data into **IT471Student** table using the following SQL script.

|  |
| --- |
| INSERT INTO [IT471Student]  ([StudentID], [FirstName], [LastName], [Age], [FinalGrade])  VALUES  ('S0001', 'Michael', 'Green', 19, 80.0),  ('S0002', 'Angela', 'Red', 18, 93.0),  ('S0003', 'Gary', 'Yellow', 22, 40.8),  ('S0004', 'Meg', 'Blue', 21, 78.0),  ('S0005', 'Jack', 'Grey', 22, 98.0),  ('S0006', 'Ellen', 'White', 19, 81.5); |

Step 4. Using SSMS, insert some data into **IT471Assignment** table using the following SQL script.

|  |
| --- |
| INSERT INTO [IT471Assignment]  ([AssignmentID],[AssignmentName],[StudentID],  [AssignmentScore],[DueDate],[SubmissionTime])  VALUES  ('A0001', 'Assignment\_1', 'S0001', 80.0, '2019-02-11', '2019-02-10 14:00:00'),  ('A0002', 'Assignment\_1', 'S0002', 90.5, '2019-02-11', '2019-02-10 13:57:00'),  ('A0003', 'Assignment\_1', 'S0003', 75.0, '2019-02-11', '2019-02-10 19:40:20'),  ('A0004', 'Assignment\_1', 'S0004', 55.0, '2019-02-11', '2019-02-11 11:00:02'),  ('A0005', 'Assignment\_1', 'S0005', NULL, '2019-02-11', NULL),  ('A0006', 'Assignment\_1', 'S0006', NULL, '2019-02-11', '2019-02-12 19:01:50'),  ('A0007', 'Assignment\_2', 'S0001', 80.5, '2019-02-18', '2019-02-17 12:10:51'),  ('A0008', 'Assignment\_2', 'S0002', 76.5, '2019-02-18', '2019-02-17 17:00:02'),  ('A0009', 'Assignment\_2', 'S0003', 98.0, '2019-02-18', '2019-02-16 14:06:12'),  ('A0010', 'Assignment\_2', 'S0004', 100.0, '2019-02-18', '2019-02-17 14:40:20'),  ('A0011', 'Assignment\_2', 'S0005', 54.0, '2019-02-18', '2019-02-16 14:03:40'),  ('A0012', 'Assignment\_2', 'S0006', 70.5, '2019-02-18', '2019-02-17 17:00:45'),  ('A0013', 'Assignment\_3', 'S0001', NULL, '2019-02-25', '2019-02-24 00:02:02'),  ('A0014', 'Assignment\_3', 'S0002', 100.0, '2019-02-25', '2019-02-24 01:10:36'),  ('A0015', 'Assignment\_3', 'S0003', 85.0, '2019-02-25', '2019-02-24 08:06:41'),  ('A0016', 'Assignment\_3', 'S0004', 90.5, '2019-02-25', '2019-02-24 11:07:05'),  ('A0017', 'Assignment\_3', 'S0005', 100.0, '2019-02-25', '2019-02-24 14:06:50'),  ('A0018', 'Assignment\_3', 'S0006', 87.0, '2019-02-25', '2019-02-24 15:05:00'),  ('A0019', 'Assignment\_4', 'S0001', 100.0, '2019-03-04', '2019-03-03 14:01:50'),  ('A0020', 'Assignment\_4', 'S0002', 100.0, '2019-03-04', '2019-03-03 19:07:50'),  ('A0021', 'Assignment\_4', 'S0003', 100.0, '2019-03-04', '2019-03-03 15:00:21'),  ('A0022', 'Assignment\_4', 'S0004', 53.0, '2019-03-04', '2019-03-06 19:20:10'),  ('A0023', 'Assignment\_4', 'S0005', 68.0, '2019-03-04', '2019-03-03 14:03:53'),  ('A0024', 'Assignment\_4', 'S0006', NULL, '2019-03-04', NULL),  ('A0025', 'Assignment\_5', 'S0001', 58.0, '2019-03-11', '2019-03-13 17:26:02'),  ('A0026', 'Assignment\_5', 'S0002', 90.0, '2019-03-11', '2019-03-10 02:42:59'),  ('A0027', 'Assignment\_5', 'S0003', 100.0, '2019-03-11', '2019-03-10 14:36:12'),  ('A0028', 'Assignment\_5', 'S0004', 95.5, '2019-03-11', '2019-03-10 14:03:56'),  ('A0029', 'Assignment\_5', 'S0005', 70.0, '2019-03-11', '2019-03-10 15:10:10'),  ('A0030', 'Assignment\_5', 'S0006', 88.0, '2019-03-11', '2019-03-10 15:30:30'),  ('A0031', 'Assignment\_6', 'S0001', 30.0, '2019-03-18', '2019-03-17 14:02:01'),  ('A0032', 'Assignment\_6', 'S0002', 68.0, '2019-03-18', '2019-03-17 19:06:20'),  ('A0033', 'Assignment\_6', 'S0003', 100.0, '2019-03-18', '2019-03-16 11:14:12'),  ('A0034', 'Assignment\_6', 'S0004', NULL, '2019-03-18', '2019-03-17 12:15:27'),  ('A0035', 'Assignment\_6', 'S0005', 100.0, '2019-03-18', '2019-03-16 18:00:26'),  ('A0036', 'Assignment\_6', 'S0006', 87.0, '2019-03-18', '2019-03-17 17:21:26'),  ('A0037', 'Assignment\_7', 'S0001', 82.0, '2019-03-25', '2019-03-16 14:18:41'),  ('A0038', 'Assignment\_7', 'S0002', 70.5, '2019-03-25', '2019-03-24 13:23:28'),  ('A0039', 'Assignment\_7', 'S0003', 75.5, '2019-03-25', '2019-03-24 11:22:17'),  ('A0040', 'Assignment\_7', 'S0004', 57.0, '2019-03-25', '2019-03-26 19:23:28'),  ('A0041', 'Assignment\_7', 'S0005', 67.5, '2019-03-25', '2019-03-26 19:36:28'),  ('A0042', 'Assignment\_7', 'S0006', NULL, '2019-03-25', NULL),  ('A0043', 'Assignment\_8', 'S0001', NULL, '2019-04-11', NULL),  ('A0044', 'Assignment\_8', 'S0002', 77.5, '2019-04-11', '2019-04-10 17:24:28'),  ('A0045', 'Assignment\_8', 'S0003', NULL, '2019-04-11', NULL),  ('A0046', 'Assignment\_8', 'S0004', 100.0, '2019-04-11', '2019-04-10 14:24:26'),  ('A0047', 'Assignment\_8', 'S0005', 69.0, '2019-04-11', '2019-04-10 10:27:17'),  ('A0048', 'Assignment\_8', 'S0006', NULL, '2019-04-11', '2019-04-12 15:13:24'),  ('A0049', 'Assignment\_9', 'S0001', NULL, '2019-04-18', NULL),  ('A0050', 'Assignment\_9', 'S0002', 99.0, '2019-04-18', '2019-04-17 16:26:18'),  ('A0051', 'Assignment\_9', 'S0003', 84.0, '2019-04-18', '2019-04-17 11:25:15'),  ('A0052', 'Assignment\_9', 'S0004', 97.5, '2019-04-18', '2019-04-16 11:13:17'),  ('A0053', 'Assignment\_9', 'S0005', 100.0, '2019-04-18', '2019-04-16 14:51:53'),  ('A0054', 'Assignment\_9', 'S0006', NULL, '2019-04-18', NULL),  ('A0055', 'Assignment\_10', 'S0001', 100.0, '2019-04-21', '2019-04-20 14:49:20'),  ('A0056', 'Assignment\_10', 'S0002', 100.0, '2019-04-21', '2019-04-20 21:21:32'),  ('A0057', 'Assignment\_10', 'S0003', 100.0, '2019-04-21', '2019-04-20 17:21:25'),  ('A0058', 'Assignment\_10', 'S0004', 58.0, '2019-04-21', '2019-04-22 18:00:14'),  ('A0059', 'Assignment\_10', 'S0005', 58.0, '2019-04-21', '2019-04-20 14:04:20'),  ('A0060', 'Assignment\_10', 'S0006', 88.0, '2019-04-21', '2019-04-20 18:34:40'),  ('A0061', 'Assignment\_11', 'S0001', 68.0, '2019-05-11', '2019-04-20 14:44:03'),  ('A0062', 'Assignment\_11', 'S0002', 100.0, '2019-05-11', '2019-04-20 14:12:03'),  ('A0063', 'Assignment\_11', 'S0003', 80.0, '2019-05-11', '2019-05-10 14:34:06'),  ('A0064', 'Assignment\_11', 'S0004', 94.5, '2019-05-11', '2019-05-10 17:36:02'),  ('A0065', 'Assignment\_11', 'S0005', 77.0, '2019-05-11', '2019-05-10 13:28:02'),  ('A0066', 'Assignment\_11', 'S0006', 81.0, '2019-05-11', '2019-05-10 19:16:06'),  ('A0067', 'Assignment\_12', 'S0001', 37.0, '2019-05-19', '2019-05-10 12:15:06'),  ('A0068', 'Assignment\_12', 'S0002', 69.0, '2019-05-19', '2019-05-10 15:15:05'),  ('A0069', 'Assignment\_12', 'S0003', 100.0, '2019-05-19', '2019-05-17 14:35:02'),  ('A0070', 'Assignment\_12', 'S0004', NULL, '2019-05-19', '2019-05-20 17:28:00'),  ('A0071', 'Assignment\_12', 'S0005', NULL, '2019-05-19', '2019-05-20 12:29:02'),  ('A0072', 'Assignment\_12', 'S0006', 87.0, '2019-05-19', '2019-05-17 11:49:20'); |

After finishing steps 1 to 4, answer the following questions:

For step1. To step 4

Graphical user interface, application

Description automatically generated with medium confidence

**Questions:**

**Q1**: What are primary keys (PK) for two tables? Write down the column names: (2 point)

[IT471Student] : \_ StudentID

[IT471Assignment]: AssignmentID

**Q2**: List all students who are under 21 (not including 21).

Copy and paste your SQL query: (1 point)

|  |
| --- |
| select [firstname]+ ' '+[lastname] as Student, age  from IT471Assignment, IT471Student  where Age<21 ; |

Copy and paste your screenshot of SQL query result: (1 point)

Graphical user interface, application, Word

Description automatically generated

**Q3**: List all ungraded assignments (i.e., assignments with NULL assignment scores).

Copy and paste your SQL query: (1 point)

|  |
| --- |
| /\*\* list all which is not graded \*\*/  select AssignmentID, Assignmentscore  from IT471Assignment  where Assignmentscore is null; |

Copy and paste your screenshot of SQL query result: (1 point)

Table

Description automatically generated

**Q4**: List all late submissions.

Copy and paste your SQL query: (1 point)

|  |
| --- |
| /\*\* late assignment submission \*\*/  select AssignmentID, submissiontime  from IT471Assignment  where submissiontime is null; |

Copy and paste your screenshot of SQL query result: (1 point)

Table

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**Q5**: Professor wants to know the names of students with missing assignments.

List assignment name, first name, and last name of students who have missing submissions. (But don’t list the same row twice).

Copy and paste your SQL query: (0.5 point)

|  |
| --- |
| /\*\* student who miss their assignment and their firstname, and lastname. \*\*/  select distinct firstname, lastname, AssignmentScore  from IT471Student, IT471Assignment  where AssignmentScore is null; |

Copy and paste your screenshot of SQL query result: (0.5 point)

Table

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**Q6**: Show a list of students (FirstName and LastName) with their number of missing assignments.

Sort the result from the student with most missing assignments at the top, least missing assignment at the bottom.

HINT: use count function and GROUP BY clause, also use ORDER BY

Copy and paste your SQL query: (0.5 point)

|  |
| --- |
| /\*\* list student with nuber of missing assingnment and sort result with most missing at top and least ant bottom.\*\*/  select distinct [firstname], [lastname] , count (Assignmentscore) as missingassignment  from IT471Assignment, IT471Student  where Assignmentscore is null  group by firstname, lastname  order by missingassignment desc; |

Copy and paste your screenshot of SQL query result: (0.5 point)

Table

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