IS664 Database Programming Fall 2021



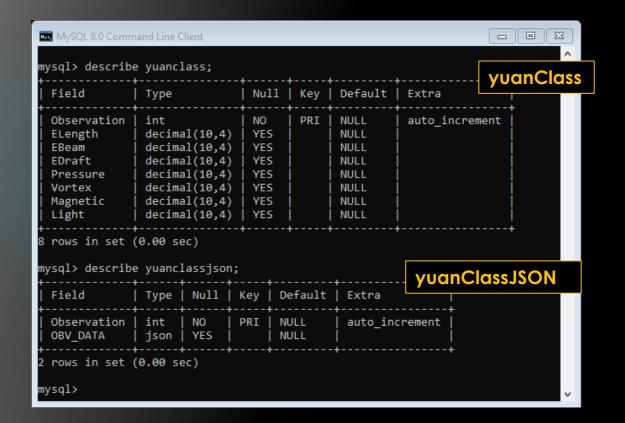
Database Programming/Analysis

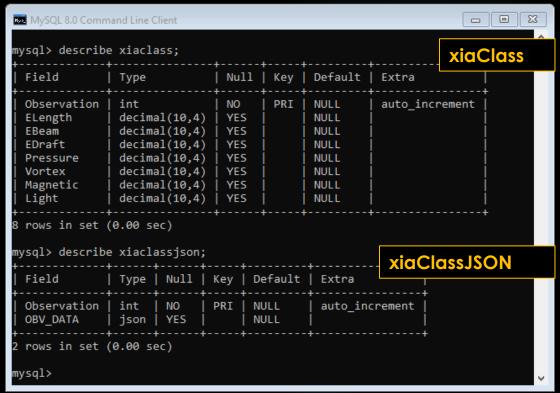
ADVANCED STORED PROCEDURE EXERCISE

PHASE 0 - 2 TASKS

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- Create StoredProcedure jsonTransform that creates new tables for
 - YuanClass
 - XiaClass





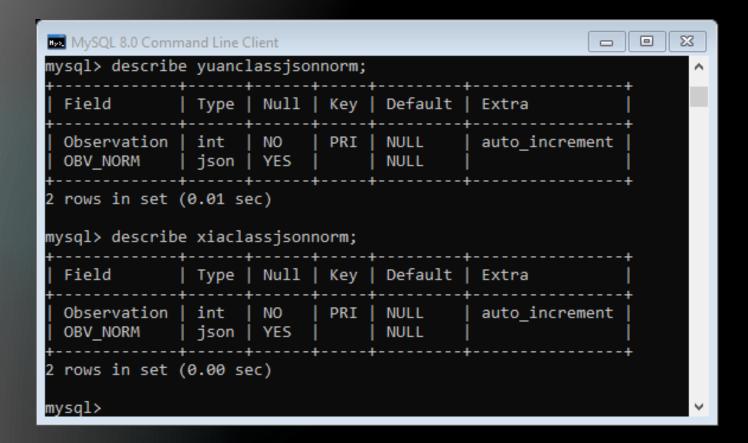
Create the following functions:

- minValue(JA JSON)
 - Accepts a JSON Array containing only numbers of any length and returns the minimum of the numbers.
- maxValue(JA JSON)
 - Accepts a JSON Array containing only numbers of any length and returns the maximum of the numbers.
- sumValue(JA JSON)
 - Accepts a JSON Array containing only numbers of any length and returns the sum of the numbers.
- muValue(JA JSON)
 - ► Accepts a JSON Array containing only numbers of any length and returns the mean of the numbers.

Create the following functions:

- sigma2Value(JA JSON)
 - ► Accepts a JSON Array containing only numbers of any length and returns the variance of the numbers.
- sigmaValue(JA JSON)
 - ► Accepts a JSON Array containing only numbers of any length and returns the standard deviation of the numbers.
- rangeValue(JA JSON)
 - ► Accepts a JSON Array containing only numbers of any length and returns the range of the numbers.
- euclidean(O JSON, T JSON)
 - ➤ Accepts a two JSON Arrays containing only numbers (which represent vectors) of the same length and returns the euclidean distance between the two.

- Create StoredProcedure jsonTransformNorm that creates new tables of normalized data for
 - YuanClassJSON
 - XiaClassJSON



► Create the Stored Procedure meanFeatureVector that creates the Template for each submarine class

MySQL 8.0 Command Line Client						
mysql> describ	oe yuantemplate;		.	.	.	^
Field	Туре	Null	Key	Default	Extra	
Sub_Class E_Length E_Beam E_Draft E_Pressure E_Vortex E_Magentic E_Light +	varchar(20) decimal(10,2) decimal(10,2) decimal(10,2) decimal(10,2) decimal(10,2) decimal(10,2) decimal(10,2) decimal(10,2)	NO YES YES YES YES YES YES YES	PRI	NULL NULL NULL NULL NULL NULL NULL		†
Field	Type	Null	Key	Default	Extra	
Sub_Class E_Length E_Beam E_Draft E_Pressure E_Vortex E_Magentic E_Light	varchar(20) decimal(10,2) decimal(10,2) decimal(10,2) decimal(10,2) decimal(10,2) decimal(10,2) decimal(10,2)	NO YES YES YES YES YES YES YES YES YES	PRI 	NULL NULL NULL NULL NULL NULL NULL NULL		
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- ➤ Create the Stored Procedure euclideanCalculator that creates a table for each submarine class that contains the Euclidean distance between the individual observation (normalized) and the Template for that submarine class.
- yuanClassEuclidean
- xiaClassEuclidean

