

IS 664 Fall 2021



Imperial_defense

EXAM 1 ALTERNATE STORED PROCEDURES AND FUNCTIONS

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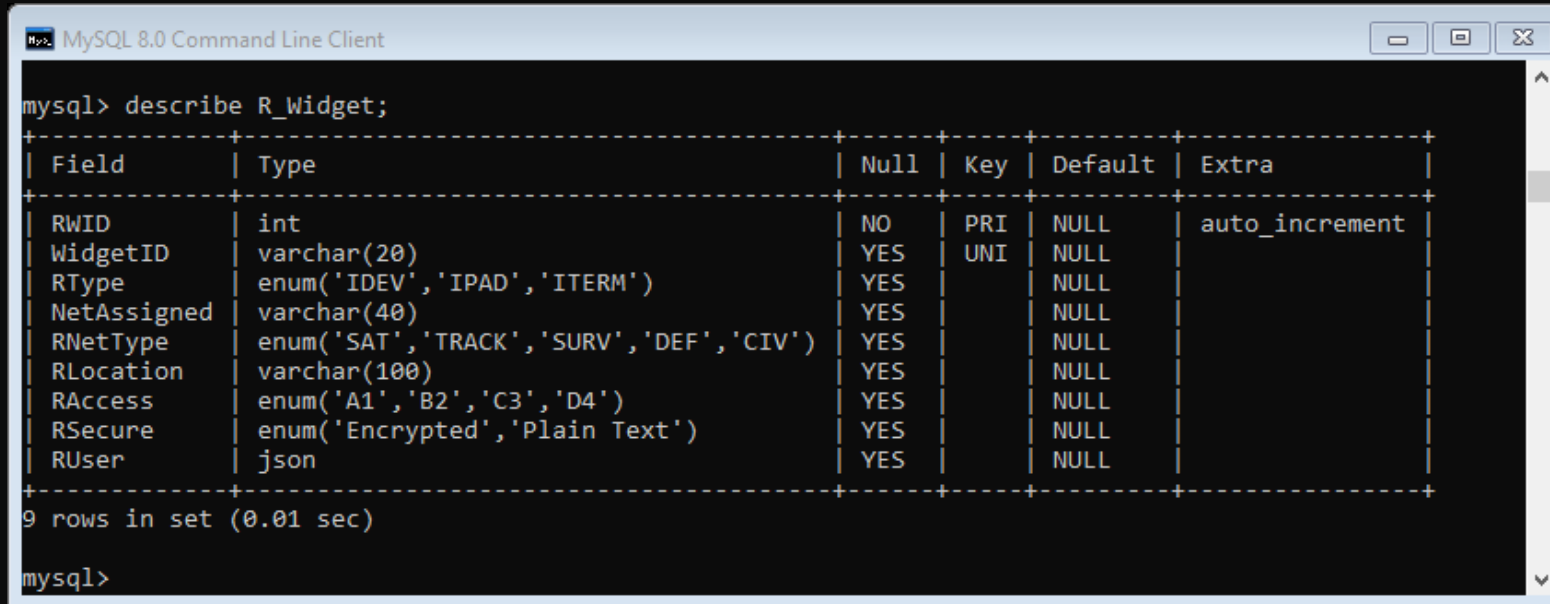
GENERAL

- This is Exam 1 Alternate; it will replace your previous Exam 1 attempt.
- Read the task carefully and write the code necessary to create the defined Stored Procedure.
- Create a **single SQL script** containing all the code for the Task.
- The Stored Procedure should be created in the **imperial_defense** database.
- The Stored Procedure **must utilize** a cursor to retrieve all required data and **may not** have hardcoded values.
- The Stored Procedure **may include** user-defined and native functions.
- Utilize your MySQL documentation.
- Be conscious of good style and eliminate extraneous code from your SQL script.
- The time limit for the exam is **2.5 hours**.

Task

Create the Stored Procedure `widget_Refactor` that accepts no parameters and creates, populates, and displays the first 10 rows of table `R_Widget`

The `R_Widget` table (structure shown below).



The screenshot shows a MySQL 8.0 Command Line Client window. The command `mysql> describe R_Widget;` has been entered, and the output is displayed in a table format. The table has 7 columns: Field, Type, Null, Key, Default, and Extra. The rows represent the fields of the `R_Widget` table: `RWID` (int, NO, PRI, NULL, auto_increment), `WidgetID` (varchar(20), YES, UNI, NULL), `RType` (enum('IDEV', 'IPAD', 'ITERM'), YES, NULL), `NetAssigned` (varchar(40), YES, NULL), `RNetType` (enum('SAT', 'TRACK', 'SURV', 'DEF', 'CIV'), YES, NULL), `RLocation` (varchar(100), YES, NULL), `RAccess` (enum('A1', 'B2', 'C3', 'D4'), YES, NULL), `RSecure` (enum('Encrypted', 'Plain Text'), YES, NULL), and `RUser` (json, YES, NULL). The output also shows "9 rows in set (0.01 sec)".

Field	Type	Null	Key	Default	Extra
RWID	int	NO	PRI	NULL	auto_increment
WidgetID	varchar(20)	YES	UNI	NULL	
RType	enum('IDEV', 'IPAD', 'ITERM')	YES		NULL	
NetAssigned	varchar(40)	YES		NULL	
RNetType	enum('SAT', 'TRACK', 'SURV', 'DEF', 'CIV')	YES		NULL	
RLocation	varchar(100)	YES		NULL	
RAccess	enum('A1', 'B2', 'C3', 'D4')	YES		NULL	
RSecure	enum('Encrypted', 'Plain Text')	YES		NULL	
RUser	json	YES		NULL	

9 rows in set (0.01 sec)

mysql>

Maintains referential integrity with `widget`

Conversion Rules

```
MySQL 8.0 Command Line Client
mysql> describe R_Widget;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| RWID  | int  | NO   | PRI | NULL    | auto_increment |
| WidgetID | varchar(20) | YES | UNI | NULL    |
| RType | enum('IDEV','IPAD','ITERM') | YES | NULL |
| NetAssigned | varchar(40) | YES | NULL |
| RNetType | enum('SAT','TRACK','SURV','DEF','CIV') | YES | NULL |
| RLocation | varchar(100) | YES | NULL |
| RAccess | enum('A1','B2','C3','D4') | YES | NULL |
| RSecure | enum('Encrypted','Plain Text') | YES | NULL |
| RUser  | json | YES | NULL |
+-----+-----+-----+-----+-----+-----+
9 rows in set (0.01 sec)

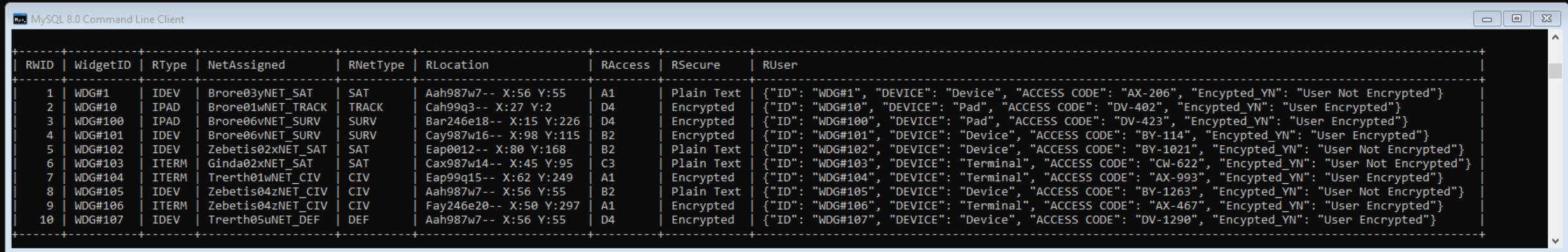
mysql>
```

- Conversion of WType into RType: Device = IDEV Pad = IPAD Terminal = ITERM
- Conversion of AssignedTo to RNetType: Suffix of each Network corresponds to RNetType
- Conversion of Location to RLocation: Concatenation of Location and the XCoord and YCoord of the Location in the format shown.
- Conversion of AccessCode to RAccess: Access code contains 'A' convert to 'A1', contains 'B' convert to 'B2', contains C convert to 'C3' contains 'D' convert 'D4'
- Conversion of Secure to RSecure: True becomes 'Encrypted' and False becomes 'Plain Text'

RUser Construction			
ID	DEVICE	ACCESS CODE	Encrypted_YN
WID	WType	AccessCode	Encrypted = 'User Encrypted' Plain Text = 'User Not Encrypted'

Task: EXPECTED OUTPUT

Execution of the widgetRefactor procedure should produce the following output.



RWID	WidgetID	RType	NetAssigned	RNetType	RLocation	RAccess	RSecure	RUser
1	WDG#1	IDEV	Brore03yNET_SAT	SAT	Aah987w7-- X:56 Y:55	A1	Plain Text	{"ID": "WDG#1", "DEVICE": "Device", "ACCESS CODE": "AX-206", "Encrypted_YN": "User Not Encrypted"}
2	WDG#10	IPAD	Brore01wNET_TRACK	TRACK	Cah99q3-- X:27 Y:2	D4	Encrypted	{"ID": "WDG#10", "DEVICE": "Pad", "ACCESS CODE": "DV-402", "Encrypted_YN": "User Encrypted"}
3	WDG#100	IPAD	Brore06vNET_SURV	SURV	Bar246e18-- X:15 Y:226	D4	Encrypted	{"ID": "WDG#100", "DEVICE": "Pad", "ACCESS CODE": "DV-423", "Encrypted_YN": "User Encrypted"}
4	WDG#101	IDEV	Brore06vNET_SURV	SURV	Cay987w16-- X:98 Y:115	B2	Encrypted	{"ID": "WDG#101", "DEVICE": "Device", "ACCESS CODE": "BY-114", "Encrypted_YN": "User Encrypted"}
5	WDG#102	IDEV	Zebetis02xNET_SAT	SAT	Eap0012-- X:80 Y:168	B2	Plain Text	{"ID": "WDG#102", "DEVICE": "Device", "ACCESS CODE": "BY-1021", "Encrypted_YN": "User Not Encrypted"}
6	WDG#103	ITERM	Ginda02xNET_SAT	SAT	Cax987w14-- X:45 Y:95	C3	Plain Text	{"ID": "WDG#103", "DEVICE": "Terminal", "ACCESS CODE": "CW-622", "Encrypted_YN": "User Not Encrypted"}
7	WDG#104	ITERM	Trerth01wNET_CIV	CIV	Eap99q15-- X:62 Y:249	A1	Encrypted	{"ID": "WDG#104", "DEVICE": "Terminal", "ACCESS CODE": "AX-993", "Encrypted_YN": "User Encrypted"}
8	WDG#105	IDEV	Zebetis04zNET_CIV	CIV	Aah987w7-- X:56 Y:55	B2	Plain Text	{"ID": "WDG#105", "DEVICE": "Device", "ACCESS CODE": "BY-1263", "Encrypted_YN": "User Not Encrypted"}
9	WDG#106	ITERM	Zebetis04zNET_CIV	CIV	Fay246e20-- X:50 Y:297	A1	Encrypted	{"ID": "WDG#106", "DEVICE": "Terminal", "ACCESS CODE": "AX-467", "Encrypted_YN": "User Encrypted"}
10	WDG#107	IDEV	Trerth05uNET_DEF	DEF	Aah987w7-- X:56 Y:55	D4	Encrypted	{"ID": "WDG#107", "DEVICE": "Device", "ACCESS CODE": "DV-1290", "Encrypted_YN": "User Encrypted"}