

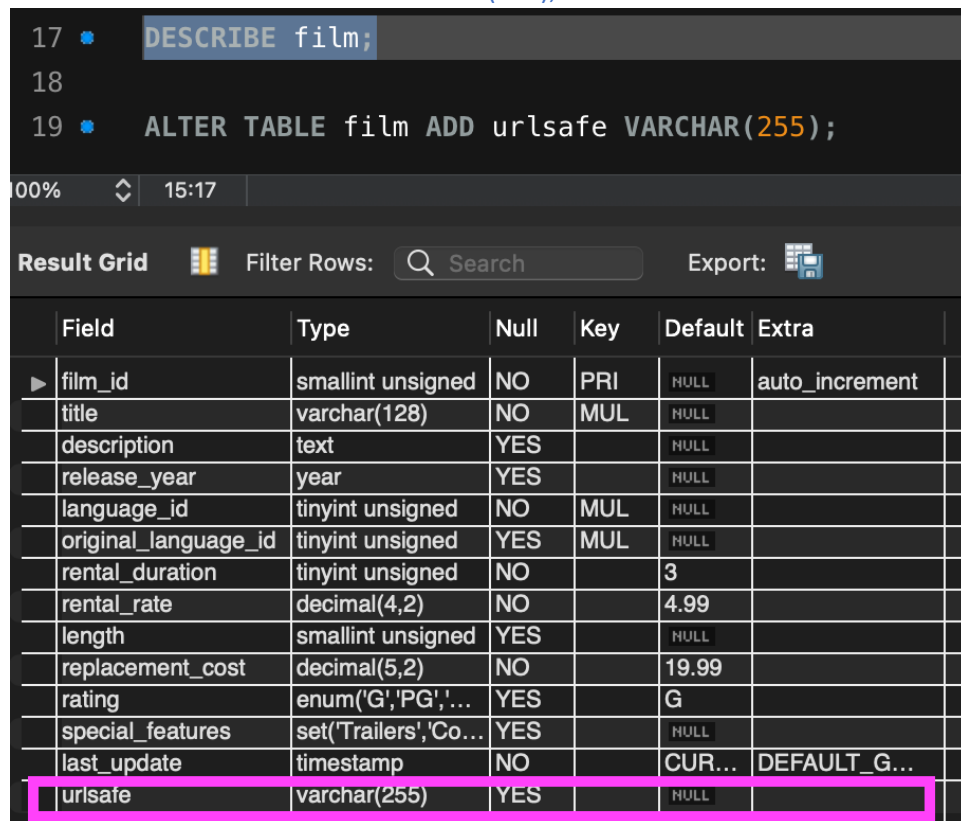
# Lab 9- Stored Programs: User Defined Functions

## Task 2

Create a function to clean up and make the film descriptions URL safe. For example, URLs cannot contain spaces and certain special characters.

1. Alter the table film by adding the following column and write the query to do so as your answer: urlsafe VARCHAR(255) (1 mark)

`ALTER TABLE film ADD urlsafe VARCHAR(255);`



The screenshot shows a SQL IDE with a query editor and a result grid. The query editor contains the following SQL statements:

```
17 DESCRIBE film;
18
19 ALTER TABLE film ADD urlsafe VARCHAR(255);
```

The result grid displays the table structure for the 'film' table. The columns are: Field, Type, Null, Key, Default, Extra, and an additional column for the new 'urlsafe' field. The 'urlsafe' field is highlighted with a pink border.

Field	Type	Null	Key	Default	Extra	
film_id	smallint unsigned	NO	PRI	NULL	auto_increment	
title	varchar(128)	NO	MUL	NULL		
description	text	YES		NULL		
release_year	year	YES		NULL		
language_id	tinyint unsigned	NO	MUL	NULL		
original_language_id	tinyint unsigned	YES	MUL	NULL		
rental_duration	tinyint unsigned	NO		3		
rental_rate	decimal(4,2)	NO		4.99		
length	smallint unsigned	YES		NULL		
replacement_cost	decimal(5,2)	NO		19.99		
rating	enum('G','PG','...)	YES		G		
special_features	set('Trailers','Co...)	YES		NULL		
last_update	timestamp	NO		CUR...	DEFAULT_G...	
urlsafe	varchar(255)	YES		NULL		

2. Create a user defined function, named clean\_string, to strip out spaces. The user defined function will accept a string(varchar) as an argument. (4 marks)

```

23 DELIMITER :
24
25 CREATE FUNCTION clean_string (oldString varchar(255))
26 RETURNS varchar(255)
27 DETERMINISTIC
28 BEGIN
29     RETURN REPLACE(oldString, ' ', '');
30 END:

```

- Test your function by running and copy the result of running this as your answer: select clean\_string(" this is a test"); (1 mark)

34 SELECT clean\_string(" this is a test");

100% 1:33

**Result Grid** Filter Rows:  Export

	clean_string(" this is a te...
	thisisatest

- Test your function by running a string through that has other characters present such as a period or a semi colon. (1 mark)

36 SELECT clean\_string(" this is a test for step4 ;`\*^~!#\$%)( '&%\$");

100% 66:36

**Result Grid** Filter Rows:  Export:

	clean_string(" this is a test for step4 ;`*^~!#...
	thisisatestforstep4;`*^~!#\$%)( '&%\$

- Alter your function to strip out the following characters in addition to spaces: .; !@# \$%\* (2 marks)

```

39 DROP FUNCTION IF EXISTS clean_string;
40
41 DELIMITER ;
42
43 CREATE FUNCTION clean_string (oldString varchar(255))
44 RETURNS varchar(255)
45 DETERMINISTIC
46 BEGIN
47     declare newString01 varchar(255);
48     set newString01 = REGEXP_REPLACE(oldString, '[: .; !@# $%* ]', '');
49     RETURN REPLACE(newString01, ' ', '');
50 END;
51
52 DELIMITER ;

```

6. Now run your function against the description field of the film table for the first 5 rows and copy the result as your answer. (1 mark)

the result (below)

'AEpicDramaofaFeministAndaMadScientistwhomustBattleaTeacherinTheCanadianRockies'  
 'AAstoundingEpistleofaDatabaseAdministratorAndaExplorerwhomustFindaCarinAncientChina'  
 'AAstoundingReflectionofaLumberjackAndaCarwhomustSinkaLumberjackinABalloonFactory'  
 'AFancifulDocumentaryofaFrisbeeAndaLumberjackwhomustChasea\n\nMonkeyinASharkTank'  
 'AFast-PacedDocumentaryofaPastryChefAndaDentistwhomustPursueaForensicPsychologistinTheGulfof Mexico'

```

54 SELECT film_id, title, description, clean_string(description) AS NewDescription
55 FROM film LIMIT 5;

```

film_id	title	description	NewDescription
1	ACADEMY DINOSAUR	A Epic @Drama of a Feminist And a Mad Scient...	AEpicDramaofaFeministAndaMadScientistwho...
2	ACE GOLDFINGER	A Astounding Epistle of a Database Administrat...	AAstoundingEpistleofaDatabaseAdministratorA...
3	ADAPTATION HOLES	A Astounding Reflection of a Lumberjack And a...	AAstoundingReflectionofaLumberjackAndaCarw...
4	AFFAIR PREJUDICE	A Fanciful Documentary of a Frisbee And a Lum...	AFancifulDocumentaryofaFrisbeeAndaLumberja...
5	AFRICAN EGG	A Fast-Paced! Documentary of a Pastry Chef A...	AFast-PacedDocumentaryofaPastryChefAndaD...

- Last Name, first name – Lab 9.sql

Include delimiter statements when submitting the lab.