

**WMCS16001.2017-2018.1B**  
**Information Systems**

# **Relational Databases Management Systems**

## **Normalisation, Triggers, Stored Procedures and Functions**

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# Case Scenario

The Gill Art Gallery wishes to maintain data on their customers, artists and paintings. They may have several paintings by each artist in the gallery at one time. Paintings may be bought and sold several times. In other words, the gallery may sell a painting, then buy it back at a later date and sell it to another customer.

Gallery Customer History Form			
<div>Customer Name</div>			
Jackson, Elizabeth 123 – 4 <sup>th</sup> Avenue Fonthill, ON L3J 4S4		Phone (206) 284-6783	
<div>Purchases Made</div>			
Artist	Title	Purchase Date	Sales Price
03 - Carol Channing	Laugh with Teeth	09/17/2000	7000.00
15 - Dennis Frings	South toward Emerald Sea	05/11/2000	1800.00
03 - Carol Channing	At the Movies	02/14/2002	5550.00
15 - Dennis Frings	South toward Emerald Sea	07/15/2003	2200.00

## Considering the unnormlized schema

customer

[custno, cust\_name, cust\_addr, cust\_phone, artist\_id, artist\_name, art\_title, pur\_date, price]

# Tasks

1. Normalize the schema up to the third normal form and create it in postgresql. For each table, indicate the primary and foreign keys. Provide the scripts to generate the schema.
2. Create triggers (and procedures/functions if necessary) in the appropriate tables to set to uppercase the customer and the artists' names with every insert or update.
3. Create triggers to avoid transactions outside the 09:00h - 17:00h office hours