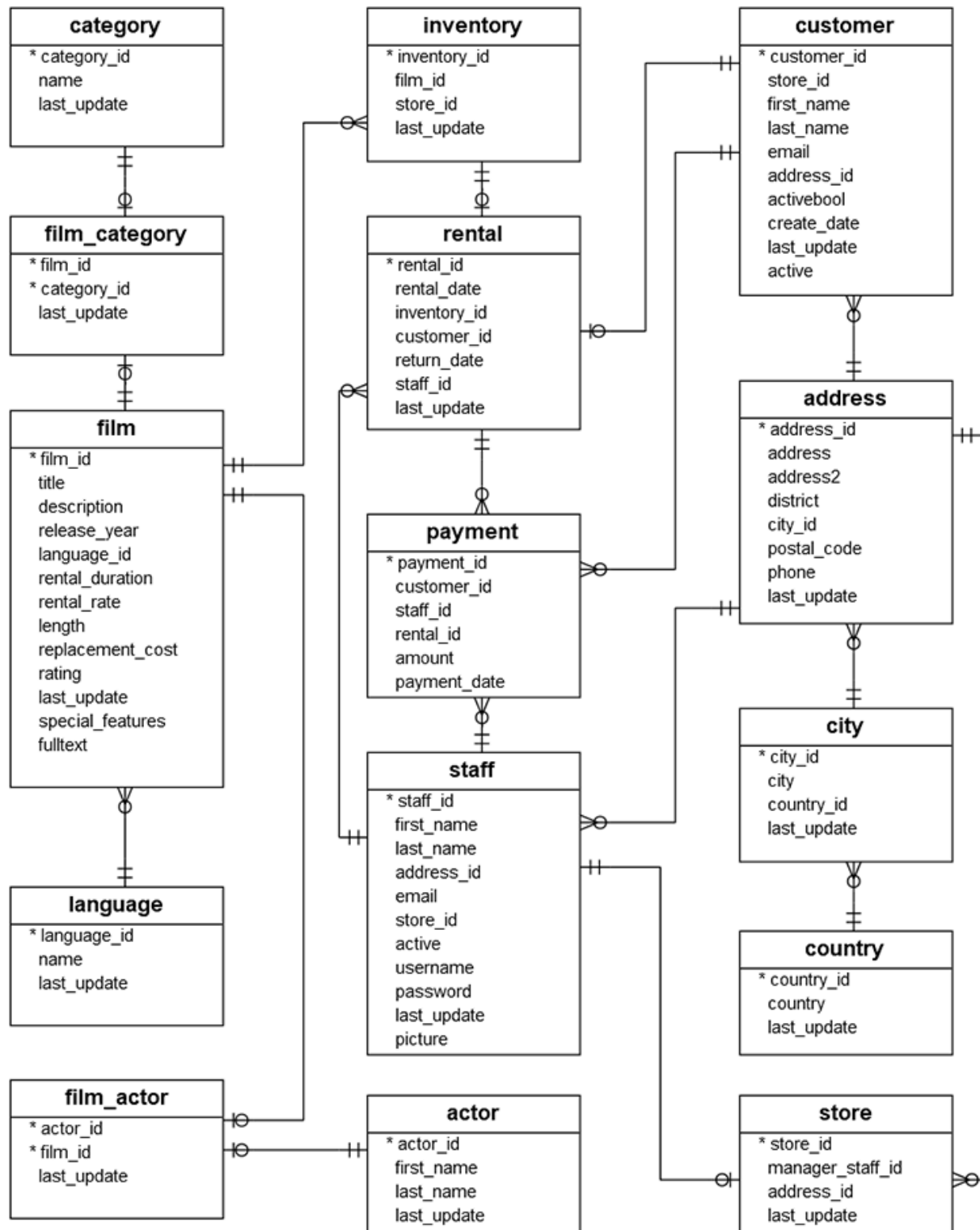
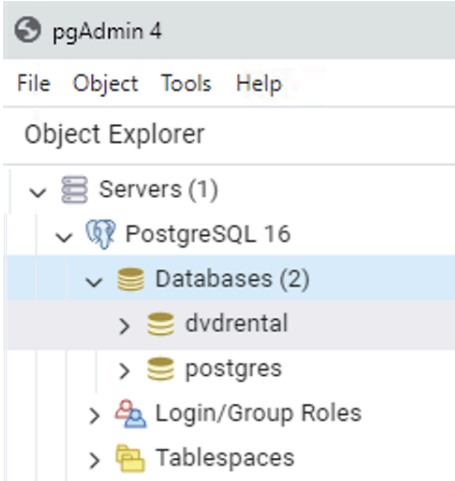
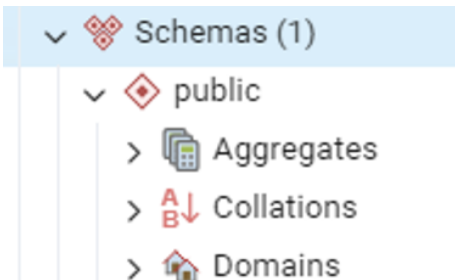
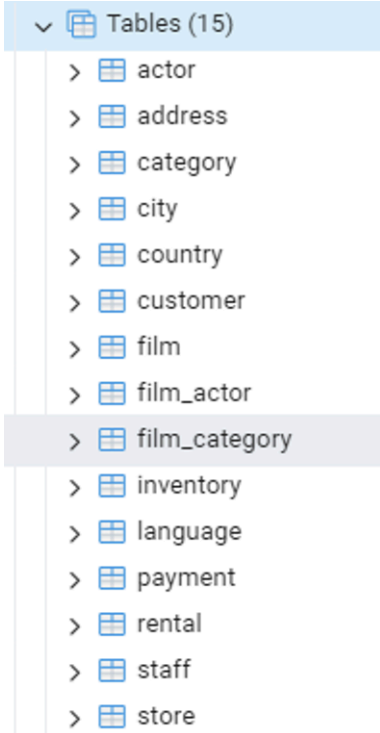
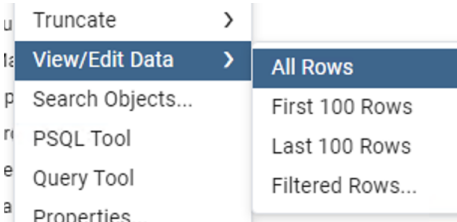
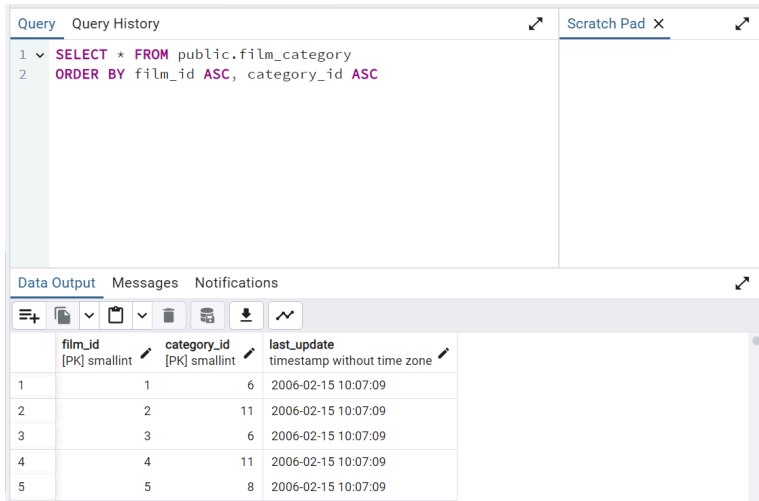


Java module 4

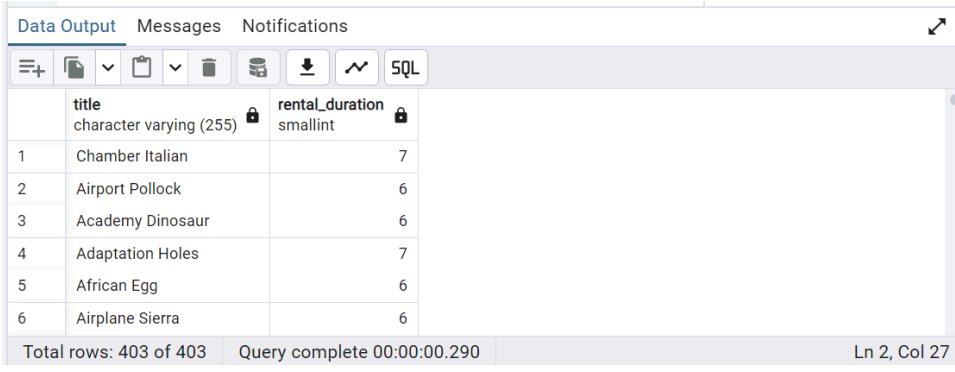
Exercises Day 1

<https://www.postgresqltutorial.com/postgresql-getting-started/postgresql-sample-database/>



1.1 - pgAdmin	pgAdmin interface																									
Instructions	<div><div><div>Step 1</div></div><div><div>Step 2</div></div></div> <div><div>Step 3</div></div> <div><div>Step 4</div></div>																									
Expected output	 <pre>1 SELECT * FROM public.film_category 2 ORDER BY film_id ASC, category_id ASC</pre> <table><tr><th></th><th>film_id [PK] smallint</th><th>category_id [PK] smallint</th><th>last_update timestamp without time zone</th></tr><tr><td>1</td><td>1</td><td>6</td><td>2006-02-15 10:07:09</td></tr><tr><td>2</td><td>2</td><td>11</td><td>2006-02-15 10:07:09</td></tr><tr><td>3</td><td>3</td><td>6</td><td>2006-02-15 10:07:09</td></tr><tr><td>4</td><td>4</td><td>11</td><td>2006-02-15 10:07:09</td></tr><tr><td>5</td><td>5</td><td>8</td><td>2006-02-15 10:07:09</td></tr></table>			film_id [PK] smallint	category_id [PK] smallint	last_update timestamp without time zone	1	1	6	2006-02-15 10:07:09	2	2	11	2006-02-15 10:07:09	3	3	6	2006-02-15 10:07:09	4	4	11	2006-02-15 10:07:09	5	5	8	2006-02-15 10:07:09
	film_id [PK] smallint	category_id [PK] smallint	last_update timestamp without time zone																							
1	1	6	2006-02-15 10:07:09																							
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4	4	11	2006-02-15 10:07:09																							
5	5	8	2006-02-15 10:07:09																							

1.2 - pgAdmin	Retrieve information																								
Instructions	Using pgAdmin's Query Tool, retrieve all information from the film table																								
Expected output	<div><div>Data OutputMessagesNotifications</div><div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div>SQL</div></div><table><thead><tr><th></th><th>film_id [PK] integer</th><th>title character varying (255)</th><th>description text</th></tr></thead><tbody><tr><td>1</td><td>133</td><td>Chamber Italian</td><td>A Fateful Reflection of a Moose And a Husband who must Overcome a M</td></tr><tr><td>2</td><td>384</td><td>Grosse Wonderful</td><td>A Epic Drama of a Cat And a Explorer who must Redeem a Moose in Aust</td></tr><tr><td>3</td><td>8</td><td>Airport Pollock</td><td>A Epic Tale of a Moose And a Girl who must Confront a Monkey in Ancier</td></tr><tr><td>4</td><td>98</td><td>Bright Encounters</td><td>A Fateful Yarn of a Lumberjack And a Feminist who must Conquer a Stud</td></tr><tr><td>5</td><td>1</td><td>Academy Dinosaur</td><td>A Epic Drama of a Feminist And a Mad Scientist who must Battle a Teach</td></tr></tbody></table><div>Total rows: 1000 of 1000Query complete 00:00:00.412Ln 1, Col 20</div></div></div>		film_id [PK] integer	title character varying (255)	description text	1	133	Chamber Italian	A Fateful Reflection of a Moose And a Husband who must Overcome a M	2	384	Grosse Wonderful	A Epic Drama of a Cat And a Explorer who must Redeem a Moose in Aust	3	8	Airport Pollock	A Epic Tale of a Moose And a Girl who must Confront a Monkey in Ancier	4	98	Bright Encounters	A Fateful Yarn of a Lumberjack And a Feminist who must Conquer a Stud	5	1	Academy Dinosaur	A Epic Drama of a Feminist And a Mad Scientist who must Battle a Teach
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5	1	Academy Dinosaur	A Epic Drama of a Feminist And a Mad Scientist who must Battle a Teach																						

1.3 - pgAdmin	Retrieve filtered results														
Instructions	Using pgAdmin's Query Tool, find all movies with a rental duration longer than 5 days														
Expected output	 <p>The screenshot shows the pgAdmin Query Tool interface. The 'Data Output' tab is selected, displaying the results of a query. The table has two columns: 'title' (character varying (255)) and 'rental_duration' (smallint). The data is as follows:</p> <table border="1"> <thead> <tr> <th>title</th> <th>rental_duration</th> </tr> </thead> <tbody> <tr> <td>Chamber Italian</td> <td>7</td> </tr> <tr> <td>Airport Pollock</td> <td>6</td> </tr> <tr> <td>Academy Dinosaur</td> <td>6</td> </tr> <tr> <td>Adaptation Holes</td> <td>7</td> </tr> <tr> <td>African Egg</td> <td>6</td> </tr> <tr> <td>Airplane Sierra</td> <td>6</td> </tr> </tbody> </table> <p>Total rows: 403 of 403 Query complete 00:00:00.290 Ln 2, Col 27</p>	title	rental_duration	Chamber Italian	7	Airport Pollock	6	Academy Dinosaur	6	Adaptation Holes	7	African Egg	6	Airplane Sierra	6
title	rental_duration														
Chamber Italian	7														
Airport Pollock	6														
Academy Dinosaur	6														
Adaptation Holes	7														
African Egg	6														
Airplane Sierra	6														

1.4 - pgAdmin	Retrieve filtered results																																				
Instructions	Using pgAdmin's Query Tool, retrieve all customers with customer_id between 400 & 500.																																				
Expected output	<div><div>Data OutputMessagesNotifications</div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div>SQL</div></div><table><thead><tr><th></th><th>customer_id [PK] integer</th><th>store_id smallint</th><th>first_name character varying (45)</th><th>last_name character varying (45)</th><th>email character varying (50)</th></tr></thead><tbody><tr><td>1</td><td>400</td><td>2</td><td>Bryan</td><td>Hardison</td><td>bryan.hardison@sakilacustomer.org</td></tr><tr><td>2</td><td>401</td><td>2</td><td>Tony</td><td>Carranza</td><td>tony.carranza@sakilacustomer.org</td></tr><tr><td>3</td><td>402</td><td>1</td><td>Luis</td><td>Yanez</td><td>luis.yanez@sakilacustomer.org</td></tr><tr><td>4</td><td>403</td><td>1</td><td>Mike</td><td>Way</td><td>mike.way@sakilacustomer.org</td></tr><tr><td>5</td><td>404</td><td>2</td><td>Stanley</td><td>Scroggins</td><td>stanley.scroggins@sakilacustomer.org</td></tr></tbody></table><div>Total rows: 101 of 101Query complete 00:00:00.172Ln 1, Col 72</div></div></div>		customer_id [PK] integer	store_id smallint	first_name character varying (45)	last_name character varying (45)	email character varying (50)	1	400	2	Bryan	Hardison	bryan.hardison@sakilacustomer.org	2	401	2	Tony	Carranza	tony.carranza@sakilacustomer.org	3	402	1	Luis	Yanez	luis.yanez@sakilacustomer.org	4	403	1	Mike	Way	mike.way@sakilacustomer.org	5	404	2	Stanley	Scroggins	stanley.scroggins@sakilacustomer.org
	customer_id [PK] integer	store_id smallint	first_name character varying (45)	last_name character varying (45)	email character varying (50)																																
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2	401	2	Tony	Carranza	tony.carranza@sakilacustomer.org																																
3	402	1	Luis	Yanez	luis.yanez@sakilacustomer.org																																
4	403	1	Mike	Way	mike.way@sakilacustomer.org																																
5	404	2	Stanley	Scroggins	stanley.scroggins@sakilacustomer.org																																

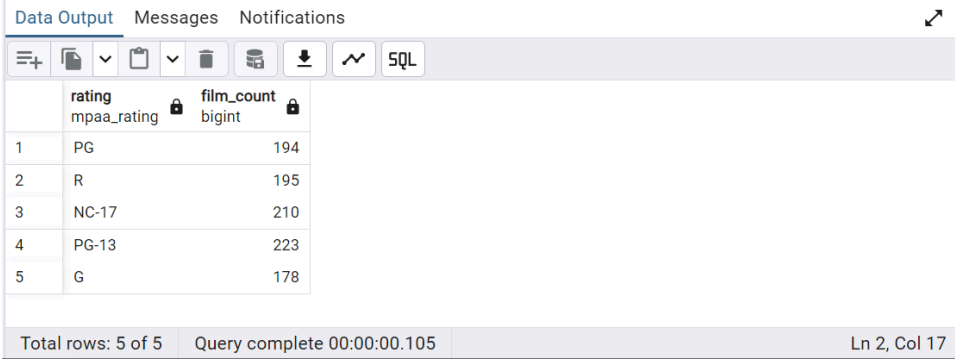
1.5 - pgAdmin	Retrieve filtered results
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Instructions	Using pgAdmin's Query Tool, retrieve all rentals for the customer "Marie Turner".																																										
Expected output	<div><div>Data OutputMessagesNotifications</div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div>SQL</div></div><table><thead><tr><th></th><th>rental_id [PK] integer</th><th>rental_date timestamp without time zone</th><th>inventory_id integer</th><th>customer_id smallint</th><th>return_date timestamp without time zone</th></tr></thead><tbody><tr><td>1</td><td>29</td><td>2005-05-25 03:47:12</td><td>611</td><td>44</td><td>2005-05-30 00:31:12</td></tr><tr><td>2</td><td>99</td><td>2005-05-25 16:50:20</td><td>535</td><td>44</td><td>2005-05-28 18:52:20</td></tr><tr><td>3</td><td>407</td><td>2005-05-27 13:57:38</td><td>1077</td><td>44</td><td>2005-05-31 18:23:38</td></tr><tr><td>4</td><td>721</td><td>2005-05-29 05:28:47</td><td>1116</td><td>44</td><td>2005-05-31 11:24:47</td></tr><tr><td>5</td><td>904</td><td>2005-05-30 10:19:42</td><td>2466</td><td>44</td><td>2005-06-05 04:58:42</td></tr><tr><td>6</td><td>1123</td><td>2005-06-15 01:52:00</td><td>2650</td><td>44</td><td>2005-06-20 00:00:00</td></tr></tbody></table><div>Total rows: 26 of 26Query complete 00:00:00.169Ln 1, Col 45</div></div></div>		rental_id [PK] integer	rental_date timestamp without time zone	inventory_id integer	customer_id smallint	return_date timestamp without time zone	1	29	2005-05-25 03:47:12	611	44	2005-05-30 00:31:12	2	99	2005-05-25 16:50:20	535	44	2005-05-28 18:52:20	3	407	2005-05-27 13:57:38	1077	44	2005-05-31 18:23:38	4	721	2005-05-29 05:28:47	1116	44	2005-05-31 11:24:47	5	904	2005-05-30 10:19:42	2466	44	2005-06-05 04:58:42	6	1123	2005-06-15 01:52:00	2650	44	2005-06-20 00:00:00
	rental_id [PK] integer	rental_date timestamp without time zone	inventory_id integer	customer_id smallint	return_date timestamp without time zone																																						
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3	407	2005-05-27 13:57:38	1077	44	2005-05-31 18:23:38																																						
4	721	2005-05-29 05:28:47	1116	44	2005-05-31 11:24:47																																						
5	904	2005-05-30 10:19:42	2466	44	2005-06-05 04:58:42																																						
6	1123	2005-06-15 01:52:00	2650	44	2005-06-20 00:00:00																																						

1.6 - pgAdmin	Calculate the average				
Instructions	Using pgAdmin's Query Tool, calculate the average rental rate for all films .				
Expected output	<div><div>Data OutputMessagesNotifications</div><div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div>SQL</div></div><table><thead><tr><th></th><th>average_rental_rate </th></tr></thead><tbody><tr><td>1</td><td>2.9800000000000000</td></tr></tbody></table><div>Total rows: 1 of 1Query complete 00:00:00.085Ln 1, Col 58</div></div></div>		average_rental_rate	1	2.9800000000000000
	average_rental_rate				
1	2.9800000000000000				

1.7 - pgAdmin	Count entries						
Instructions	Using pgAdmin's Query Tool, calculate the distinct first names of actors						
Expected output	<div><div><div>Data OutputMessagesNotifications</div><div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div>SQL</div></div><table><thead><tr><th></th><th>count</th><th>bigint</th></tr></thead><tbody><tr><td>1</td><td></td><td>128</td></tr></tbody></table><div>Total rows: 1 of 1Query complete 00:00:00.083Ln 1, Col 47</div></div></div></div>		count	bigint	1		128
	count	bigint					
1		128					

1.8 - pgAdmin	Group by and count
Instructions	Using pgAdmin's Query Tool, count the number of films in each rating

	category. Hint: Use GROUP BY												
Expected output	 <p>The screenshot shows a database query result with two columns: 'rating' (mpaa_rating) and 'film_count' (bigint). The results are as follows:</p> <table border="1"> <thead> <tr> <th>rating</th> <th>film_count</th> </tr> </thead> <tbody> <tr> <td>PG</td> <td>194</td> </tr> <tr> <td>R</td> <td>195</td> </tr> <tr> <td>NC-17</td> <td>210</td> </tr> <tr> <td>PG-13</td> <td>223</td> </tr> <tr> <td>G</td> <td>178</td> </tr> </tbody> </table> <p>Total rows: 5 of 5 Query complete 00:00:00.105 Ln 2, Col 17</p>	rating	film_count	PG	194	R	195	NC-17	210	PG-13	223	G	178
rating	film_count												
PG	194												
R	195												
NC-17	210												
PG-13	223												
G	178												

2.1 - JDBC	Connection
Instructions	Create a Java program to connect to the dvdrental database.
Expected output	Connected to the PostgreSQL servers successfully.

2.2 - JDBC	Class to table mapping
Instructions	Create a Java Class for the actor table

2.3 - JDBC	Retrieve information
Instructions	Update the main program to retrieve all actors from the actor table and print their names.
Expected output	Actor ID: 1, Name: Penelope Guinness Actor ID: 2, Name: Nick Wahlberg Actor ID: 3, Name: Ed Chase Actor ID: 4, Name: Jennifer Davis Actor ID: 5, Name: Johnny Lollobrigida Actor ID: 6, Name: Bette Nicholson Actor ID: 7, Name: Grace Mostel Actor ID: 8, Name: Matthew Johansson Actor ID: 9, Name: Joe Swank Actor ID: 10, Name: Christian Gable Actor ID: 11, Name: Zero Cage Actor ID: 12, Name: Karl Berry Actor ID: 13, Name: Uma Wood Actor ID: 14, Name: Vivien Bergen Actor ID: 15, Name: Cuba Olivier ...

2.4 - JDBC	Filter information
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Instructions	Update the main program to allow the retrieval of actors from the actor table by their last name.
Expected output	Enter a last name: Penn Actor ID: 73, Name: Gary Penn Actor ID: 133, Name: Richard Penn

2.5 - JDBC	Counting
Instructions	Update the main program to allow printing how many actors there are in the table.
Expected output	Total number of actors: 200