

DB Assignment 4

Schemas

- > class_examples
- > Hw3
- ✓ Hw4
- Tables
 - > actor
 - > address
 - > category
 - > city
 - > country
 - > customer
 - > film_actor
 - > film_category
 - > inventory
 - > language
 - Columns
 - language_id
 - name
 - Indexes
 - Foreign Keys
 - Triggers
 - > payment
 - > rental
 - > staff
 - > store
- Views
- Stored Procedures
 - Functions
 - Papa_Johns
 - sakila
 - sys

Query 1

```

132     foreign key (rental_id) references rental(rental_id)
133   );
134
135 -- 1. average film length
136 • SELECT
137   c.name AS category,          -- Category name
138   ROUND(AVG(f.length), 2) AS avg_length_minutes
139 FROM category c
140 JOIN film_category fc ON fc.category_id = c.category_id  -- Join to connect categories with films
141 JOIN film f ON f.film_id = fc.film_id                  -- Join to get each films length
142 GROUP BY c.name
143 ORDER BY c.name;

```

Result Grid

category	avg_length_min...
Action	111.61
Animation	111.02
Children	109.80
Classics	111.67
Comedy	115.83
Drama	109.25
Drama	120.84
Family	114.78
Foreign	121.70
Games	127.84
Horror	112.48
Music	113.65
New	111.13
Sci-Fi	108.20
Sports	128.20

Result 47

Action Output

Time	Action	Response	Duration / Fetch Time
22:34:50	WITH actor_counts AS (SELECT a.actor_id, -- Actor ID 1 row(s) returned		0.040 sec / 0.000055...
22:35:02	SELECT COUNT(DISTINCT i.film_id) AS distinct_movies_10_days -- Co... 1 row(s) returned		0.033 sec / 0.000010...
22:35:14	WITH cast_sizes AS (SELECT fa.film_id, -- Film ID CO... 15 row(s) returned		0.0086 sec / 0.00001...
22:37:13	WITH avg_lengths AS (SELECT c.name AS category, -- Ca... 2 row(s) returned		0.016 sec / 0.000048...
23:05:22	SELECT c.name AS category, -- Category name ROUND(A... 16 row(s) returned		0.046 sec / 0.00006...

Read Only

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Query 1

```

145 -- 2 Which categories have the longest and shortest average film lengths?
146 • WITH avg_lengths AS (
147   SELECT
148     c.name AS category,          -- Category name
149     AVG(f.length) AS avg_len   -- Average film length
150   FROM category c
151   JOIN film_category fc ON fc.category_id = c.category_id  -- Join to link films and categories
152   JOIN film f ON f.film_id = fc.film_id                  -- Get each film's length
153   GROUP BY c.name
154 )
155 SELECT
156   'longest' AS type,           -- Longest category
157   category,
158   ROUND(avg_len, 2) AS avg_length_minutes
159   FROM avg_lengths
160   WHERE avg_len = (SELECT MAX(avg_len) FROM avg_lengths)  -- Long category
161   UNION ALL
162   SELECT
163   'shortest', category, ROUND(avg_len, 2)                -- Shortest category
164   FROM avg_lengths
165   WHERE avg_len = (SELECT MIN(avg_len) FROM avg_lengths);  -- Short category

```

Result Grid

type	category	avg_length_min...
longest	Sports	128.20
shortest	Sci-Fi	108.20

Result 48

Action Output

Time	Action	Response	Duration / Fetch Time
22:35:02	SELECT COUNT(DISTINCT i.film_id) AS distinct_movies_10_days -- Co... 1 row(s) returned		0.033 sec / 0.000010...
22:35:14	WITH cast_sizes AS (SELECT fa.film_id, -- Film ID CO... 15 row(s) returned		0.0086 sec / 0.00001...
22:37:13	WITH avg_lengths AS (SELECT c.name AS category, -- Ca... 2 row(s) returned		0.016 sec / 0.000048...
23:05:22	SELECT c.name AS category, -- Category name ROUND(A... 16 row(s) returned		0.046 sec / 0.00006...
23:06:23	WITH avg_lengths AS (SELECT c.name AS category, -- Ca... 2 row(s) returned		0.026 sec / 0.000018...

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DB Assignment 4

Schemas

```

173
174     FROM customer cu
175     WHERE EXISTS (
176         SELECT 1
177         FROM rental r
178         JOIN inventory i ON i.inventory_id = r.inventory_id      -- Connect rentals to inventory
179         JOIN film_category fc ON fc.film_id = i.film_id          -- Link inventory to films
180         JOIN category c ON c.category_id = fc.category_id
181         WHERE r.customer_id = cu.customer_id
182             AND c.name = 'Action'                                -- Must have rented an Action movie
183     )
184     AND NOT EXISTS (
185         SELECT 1
186         FROM rental r
187         JOIN inventory i ON i.inventory_id = r.inventory_id
188         JOIN film_category fc ON fc.film_id = i.film_id
189         JOIN category c ON c.category_id = fc.category_id
190         WHERE r.customer_id = cu.customer_id
191             AND c.name IN ('Comedy', 'Classics')                -- cannot rent comedy or classics
192     )
193 
```

Result Grid

customer_id	first_name	last_name
433	DON	BONE
432	EDWIN	BURK
139	AMBER	DIXON
223	MELINDA	FERNANDEZ
445	MICHEAL	FORMAN
250	JO	FOWLER
350	JUAN	FRALEY
164	JOANN	GARDNER
361	LAWRENCE	LAWTON
323	MATTHEW	MAHAN
452	TOM	MILNER
232	CONSTAN...	REID
330	SCOTT	SHIPLEY
117	DONNA	THOMPSON
171	DOLORES	WAGNER
90	RUBY	WASHINGTON
213	GINA	WILLIAMSON

Action Output

Time	Action	Response	Duration / Fetch Time
220 22:35:14	WITH cast_sizes AS (SELECT fa.film_id, -- Film ID CO... 16 row(s) returned		0.0086 sec / 0.00001...
221 22:37:13	WITH avg_lengths AS (SELECT c.name AS category, -- Ca... 2 row(s) returned		0.016 sec / 0.000048...
222 23:05:22	SELECT c.name AS category, -- Category name ROUND(A... 16 row(s) returned		0.046 sec / 0.00006...
223 23:06:23	WITH avg_lengths AS (SELECT c.name AS category, -- Ca... 2 row(s) returned		0.026 sec / 0.000018...
224 23:06:59	SELECT DISTINCT cu.customer_id, -- Customer ID cu.firs... 17 row(s) returned		0.111 sec / 0.000014...
224 23:07:28	WITH actor_counts AS (SELECT a.actor_id, -- Actor ID a.firs... 1 row(s) returned		0.044 sec / 0.00002...
226 23:07:28	-	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to yo...	0.392 sec

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Schemas

```

197
198     SELECT
199         a.actor_id,                                -- Actor ID
200         a.first_name,                             -- First name
201         a.last_name,                            -- Last name
202         COUNT(DISTINCT f.film_id) AS english_films -- distinct english films
203     FROM actor a
204     JOIN film_actor fa ON fa.actor_id = a.actor_id
205     JOIN film f ON f.film_id = fa.film_id
206     JOIN language l ON l.language_id = f.language_id
207     WHERE l.name = 'English'                   -- filter only english
208     GROUP BY a.actor_id, a.first_name, a.last_name -- group by actor
209
210     SELECT
211         actor_id,
212         first_name,
213         last_name,
214         english_films
215     FROM actor_counts
216     WHERE english_films = (SELECT MAX(english_films) FROM actor_counts)
217     ORDER BY last_name, first_name;           -
218 
```

Result Grid

actor_id	first_name	last_name	english_fil...
107	GINA	DEGENERES	42

Action Output

Time	Action	Response	Duration / Fetch Time
222 23:05:22	SELECT c.name AS category, -- Category name ROUND(A... 16 row(s) returned		0.046 sec / 0.00006...
223 23:06:23	WITH avg_lengths AS (SELECT c.name AS category, -- Ca... 2 row(s) returned		0.026 sec / 0.000018...
224 23:06:59	SELECT DISTINCT cu.customer_id, -- Customer ID cu.firs... 17 row(s) returned		0.111 sec / 0.000014...
225 23:07:28	WITH actor_counts AS (SELECT a.actor_id, -- Actor ID a.firs... 1 row(s) returned		0.044 sec / 0.00002...
226 23:07:28	-	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to yo...	0.392 sec

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```

215 FROM actor_counts
216 WHERE english_films = (SELECT MAX(english_films) FROM actor_counts)
217 ORDER BY last_name, first_name;
218
219
220 -- 5. distinct films rented for exactly 10 days from the store managed by Mike
221 SELECT
222     COUNT(DISTINCT i.film_id) AS distinct_movies_10_days -- Count unique film IDs
223     FROM rental r
224     JOIN inventory i ON i.inventory_id = r.inventory_id
225     JOIN store s ON s.store_id = i.store_id
226     WHERE s.store_id = (
227         SELECT st.store_id
228         FROM staff st
229         WHERE st.first_name = 'Mike' -- Find store managed by mike
230         LIMIT 1
231     )
232     AND r.return_date IS NOT NULL
233     AND DATEDIFF(r.return_date, r.rental_date) = 10; -- rented exactly for 10 days
234
235

```

Result Grid

distinct_movies_10_da...
61

Result 51

Action Output

Time	Action	Response	Duration / Fetch Time
223 23:06:23	WITH avg_lengths AS (SELECT c.name AS category, -- C... 2 row(s) returned		0.026 sec / 0.000018...
224 23:06:59	SELECT DISTINCT cu.customer_id, -- Customer ID cu.firs... 17 row(s) returned		0.111 sec / 0.000014...
225 23:07:28	WITH actor_counts AS (SELECT a.actor_id, -- Actor I... 1 row(s) returned		0.044 sec / 0.00002...
226 23:07:28	-	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to yo...	0.392 sec
227 23:08:28	SELECT COUNT(DISTINCT i.film_id) AS distinct_movies_10_days -- Co... 1 row(s) returned		0.037 sec / 0.000014...

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```

236 6. largest number of actors and list all actors who appear in those movies.
237
238 WITH cast_sizes AS (
239     SELECT
240         fa.film_id, -- Film ID
241         COUNT(*) AS cast_count -- Number of actors in each film
242         FROM film_actor fa
243         GROUP BY fa.film_id -- Group by film to get cast size
244     ),
245 max_cast AS (
246     SELECT film_id
247     FROM cast_sizes
248

```

Result Grid

actor_id	first_name	last_name
47	JULIA	BARRYMORE
37	VAL	BOLGER
81	SCARLETT	DAEMON
138	LUCILLE	DEETZ
28	WOODY	HOFFMAN
170	MENA	HOPPER
45	REESE	KILMER
61	CHRISTIAN	NEESON
150	JAYNE	NOLTE
75	BURT	POSEY
53	MENA	TEMPLE
102	WALTER	TORN
147	FAY	WINSLET
111	CAMERON	ZELLWEGER
186	JULIA	ZELLWEGER

Result 52

Action Output

Time	Action	Response	Duration / Fetch Time
224 23:06:59	SELECT DISTINCT cu.customer_id, -- Customer ID cu.firs... 17 row(s) returned		0.111 sec / 0.000014...
225 23:07:28	WITH actor_counts AS (SELECT a.actor_id, -- Actor I... 1 row(s) returned		0.044 sec / 0.00002...
226 23:07:28	-	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to yo...	0.392 sec
227 23:08:28	SELECT COUNT(DISTINCT i.film_id) AS distinct_movies_10_days -- Co... 1 row(s) returned		0.037 sec / 0.000014...
228 23:08:45	WITH cast_sizes AS (SELECT fa.film_id, -- Film ID CO... 15 row(s) returned		0.012 sec / 0.000017...

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