

SQL Queries

Question 1:

```
SELECT c.name AS category,  
       AVG(f.length) AS average_length  
FROM category c  
JOIN film_category fc ON c.category_id = fc.category_id  
JOIN film f ON fc.film_id = f.film_id  
GROUP BY c.name  
ORDER BY c.name;
```

Question 2:

```
WITH CategoryAverages AS (  
    SELECT c.name AS category,  
           AVG(f.length) AS average_length  
    FROM category c  
    JOIN film_category fc ON c.category_id = fc.category_id  
    JOIN film f ON fc.film_id = f.film_id  
    GROUP BY c.name  
)  
SELECT category, average_length  
FROM CategoryAverages  
WHERE average_length = (SELECT MAX(average_length) FROM CategoryAverages)  
   OR average_length = (SELECT MIN(average_length) FROM CategoryAverages);
```

Question 3:

```
SELECT c.customer_id, c.first_name, c.last_name  
FROM customer c  
WHERE EXISTS (  
    SELECT 1  
    FROM rental r  
    JOIN inventory i ON r.inventory_id = i.inventory_id  
    JOIN film f ON i.film_id = f.film_id  
    JOIN film_category fc ON f.film_id = fc.film_id  
    JOIN category cat ON fc.category_id = cat.category_id  
    WHERE r.customer_id = c.customer_id  
    AND cat.name = 'Action'  
)  
AND NOT EXISTS (  
    SELECT 1  
    FROM rental r  
    JOIN inventory i ON r.inventory_id = i.inventory_id  
    JOIN film f ON i.film_id = f.film_id  
    JOIN film_category fc ON f.film_id = fc.film_id
```

```
JOIN category cat ON fc.category_id = cat.category_id
WHERE r.customer_id = c.customer_id
AND cat.name IN ('Comedy', 'Classic')
);
```

Question 4:

```
SELECT a.actor_id, a.first_name, a.last_name, COUNT(*) AS movie_count
FROM actor a
JOIN film_actor fa ON a.actor_id = fa.actor_id
JOIN film f ON fa.film_id = f.film_id
JOIN language l ON f.language_id = l.language_id
WHERE l.name = 'English'
GROUP BY a.actor_id, a.first_name, a.last_name
ORDER BY movie_count DESC
LIMIT 1;
```

Question 5:

```
SELECT COUNT(DISTINCT r.inventory_id) AS distinct_movies_count
FROM rental r
JOIN inventory i ON r.inventory_id = i.inventory_id
JOIN store s ON i.store_id = s.store_id
JOIN staff st ON s.store_id = st.store_id
WHERE st.first_name = 'Mike'
AND DATEDIFF(r.return_date, r.rental_date) = 10;
```

Question 6:

```
-- Find the film_id of the movie with the largest cast
SELECT film_id
FROM film_actor
GROUP BY film_id
ORDER BY COUNT(actor_id) DESC
LIMIT 1;
-- List actors who appeared in the movie with the largest cast
SELECT a.actor_id, a.first_name, a.last_name
FROM actor a
JOIN film_actor fa ON a.actor_id = fa.actor_id
WHERE fa.film_id = 508
ORDER BY a.last_name;
```