

CSCI 5333 DBMS Spring 2020

Suggested Solution for HW #4

(1)

- (a) $\{(title) \mid (_ , title, _ , _ , _ , _ , _ , length, _ , 'PG', _ , _) \in film, length \geq 180\}$
- (b) $\{(title) \mid (film_id, title, _ , _ , _ , _ , _ , _ , _ , _) \in film, (film_id, 148, _) \in film_actor\}$
- (c) $\{(title) \mid (film_id, title, _ , _ , _ , _ , length, _ , _ , _) \in film, (film_id, category_id, _) \in film_category, (category_id, 'Comedy', _) \in category, length \geq 180\}$
- (d) $\{(title) \mid (film_id, title, _ , _ , _ , _ , _ , _ , _ , _) \in film, (film_id, actor_id, _) \in film_actor, (actor_id = 1 \vee actor_id = 17)\}$
- (e) $\{(title) \mid (film_id, title, _ , _ , _ , _ , _ , _ , _ , _) \in film, ((inventory_id, film_id, _ , _) \notin inventory \vee (_ , _ , inventory_id, _ , _ , _) \notin rental)\}$
- (f) $\{(title) \mid (film_id, title, _ , _ , _ , _ , _ , _ , _ , _) \in film, (inventory_id, film_id, _ , _) \in inventory, (_ , _ , inventory_id, _ , _ , _) \notin rental)\}$

(2)

- (a) $\{(f.title) \mid f \in film, f.rating='PG', f.length \geq 180\}$
- (b) $\{(f.title) \mid f \in film, fa \in film_actor, f.film_id=fa.film_id, fa.actor_id=148\}$
- (c) $\{(f.title) \mid f \in film, fc \in film_category, c \in category, f.film_id=fc.film_id, fc.category_id=c.category_id, c.name='Comedy', f.length \geq 180\}$
- (d) $\{(f.title) \mid f \in film, fa \in film_actor, f.film_id=fa.film_id, (fa.actor_id=1 \vee fa.actor_id=17)\}$
- (e) $\{(f.title) \mid f \in film, (i \notin inventory \vee r \notin rental \vee i.film_id \neq f.film_id \vee i.inventory_id \neq rental.inventory_id)\}$
- (f) $\{(f.title) \mid f \in film, i \in inventory, f.film_id = i.film_id, (r \notin rental \vee inventory_id \neq r.inventory_id)\}$