

Swim's RA Solution (Spring 2017)

(a) $\pi_{FName, LName, EMail}(\text{Swimmer})$

(b) $\pi_{LevelId, StartDate}(\sigma_{SwimmerId=2}(\text{LevelHistory}))$

(c) $\pi_{FName, LName}(\sigma_{MeetId=10}(\text{Meet}) \mid x \mid \text{Coach})$

(d) $\pi_{EventId, Title, Comment, FName, LName}(\text{Event} \mid x \mid \rho_{CoachId/CommentCoachId}(\sigma_{SwimmerId=4}(\text{Participation})) \mid x \mid \text{Coach})$

Note that it is necessary to rename CommentCoachId before the natural join. If not, it becomes a Cartesian product.

(e) $\pi_{FName, LName}(\text{Swimmer} \mid x \mid (\sigma_{EventId \neq EventId_2}(\pi_{SwimmerId, EventId}(\text{Participation}) \mid x \mid (\rho_{EventId_2/EventId}(\pi_{SwimmerId, EventId}(\text{Participation}))))))$