

1. $\pi[\text{carn_date}, \text{carn_name}, \text{carn_location}](\sigma[\text{eventtype_code} = '10K'](\text{EVENT}) \bowtie \text{CARNIVAL})$

Joins the EVENT table with the CARNIVAL table. Filters for 10K events and then produces a list of carnival dates, names and locations that match 10K events.

2. $\pi[\text{comp_no}, \text{comp_fname}, \text{comp_lname}, \text{comp_dob}](\text{COMPETITOR}) - \pi[\text{comp_no}](\text{ENTRY})$

Selects all competitors and subtracts those who have made an entry. This is done by selecting the required fields from COMPETITOR and removing the set of competitor numbers that exist in the ENTRY table.

3. $\pi[\text{comp_no}, \text{comp_fname}, \text{comp_lname}, \text{ec_fname}, \text{ec_lname}, \text{ec_phone}](\sigma[\text{carn_name} = 'CR Summer Series Sydney 2023'](\text{CARNIVAL}) \bowtie (\text{COMPETITOR} \bowtie \text{ENTRY} \bowtie \text{EMERCONTACT}))$

Uses joins to connect COMPETITOR, ENTRY, CARNIVAL, and EMERCONTACT. After joining, we select entries for the Summer Series Sydney 2023 carnival and then highlight the competitor details and their emergency contact information that participated in that carnival.