

For the SQL queries q3 in Part I, give the corresponding relational algebra expressions.

- i) Get the number of countries that participated in Euro Cup 2016.

$$\gamma_{\text{count(country_id)}}(\delta(\Pi_{\text{country_id}}(\text{soccer_team})))$$

- ii) How many goals were scored during extra time (ET) in the entire tournament?

$$\gamma_{\text{count(goal_schedule)}}(\sigma_{\text{goal_schedule} = \text{'ET'}}(\text{goal_details}))$$

- iii) How many goals were scored during stoppage time (ST) in the entire tournament?

$$\gamma_{\text{count(goal_schedule)}}(\sigma_{\text{goal_schedule} = \text{'ST'}}(\text{goal_details}))$$

- iv) How many goals were scored during normal time (NT) in the entire tournament?

$$\gamma_{\text{count(goal_schedule)}}(\sigma_{\text{goal_schedule} = \text{'NT'}}(\text{goal_details}))$$

- v) Get the number of bookings that happened during stoppage time.

$$\gamma_{\text{count(play_schedule)}}(\sigma_{\text{play_schedule} = \text{'ST'}}(\text{player_booked}))$$

- vi) Get the number of bookings that happened during extra time.

$$\gamma_{\text{count(play_schedule)}}(\sigma_{\text{play_schedule} = \text{'ET'}}(\text{player_booked}))$$