

# Assignment4

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Course: ENSF 608 - Fall 2020

Assignment 4

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①  $\pi_{\text{Fname, Lname}}(\text{Competitor})$

②  $\pi_{\text{Fname, Lname}}(\sigma_{\text{Age} < 12 \text{ And Instrument} = \text{'Oboe'}}(\text{Competitor}))$

③  $\pi_{\text{CompetitorId, Name}}(\text{Competitor} \bowtie_{\text{C.TeacherId} = \text{T.TeacherId}} \text{Teacher})$

④  $\pi_{\text{C.Fname, P.Score}}(\text{Competitor} \bowtie_{\text{C.CompetitorId} = \text{P.CompetitorId}} \text{Performance})$

⑤  $\text{Songs} \leftarrow \sigma_{\text{Comptime} = \text{'13:00'}}(\text{Category})$

$\text{CategoryPerform} \leftarrow (\text{Songs} \bowtie_{\text{cat.CategoryId} = \text{P.CategoryId}} \text{Performance})$

$\text{AggJoin} \leftarrow (\text{CategoryPerform} \bowtie_{\text{C.MusicId}} \text{Composition})$

$\text{ResultRetrieve} \leftarrow \pi_{\text{title}}(\text{AggJoin})$

⑥

⑦  $\text{Songs} \leftarrow \pi_{\text{MusicId}}(\text{Composition})$

$\text{Selected} \leftarrow \pi_{\text{MusicId}}(\text{Performance})$

$\text{Unselected} \leftarrow (\text{Songs} - \text{Selected})$

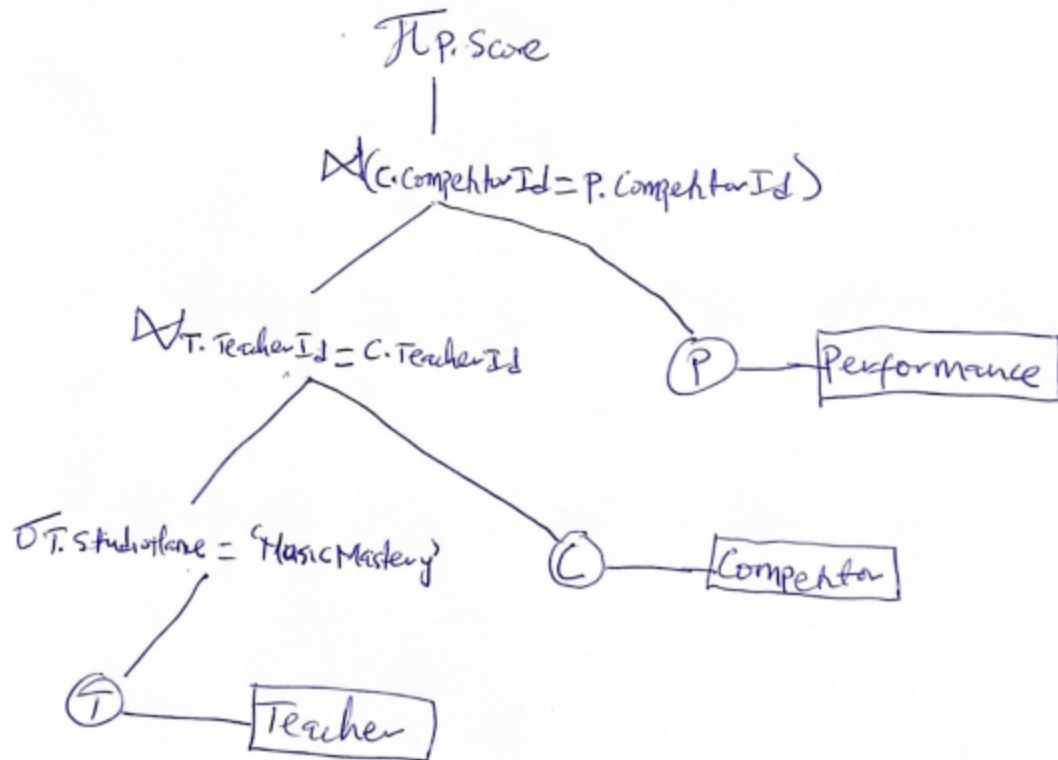
$\text{ResultQuery} \leftarrow \pi_{\text{title}}(\text{unselected} * \text{Composition})$

⑦ T\_Teachers  $\leftarrow \sigma_{\text{studname} = \text{'Hasic Mastery'}} (\text{Teacher})$

T\_Competitors  $\leftarrow \text{Competitor} \bowtie_{\text{Comp.TeacherId} = \text{T_Teachers.TeacherId}} \text{T_Teachers}$

T\_Performances  $\leftarrow \text{Performance} \bowtie_{\text{performance.competitorId} = \text{T_Competitors.competitorId} \wedge}$

$\pi_{\text{score}} (\text{T_performances})$



⑧

- Ensuring that semantics of the attributes is clear in schema
  - easy explanation of schema in all relations
  - existence of meaning among a schema's attributes
  - should be able to relate attributes to another per relation
- Minimizing redundant information in tuples
- Not allowing the possibility of generating spurious tuples
- Ensuring reduction in NULL values in tuples