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Course No. – COMP 3005

Q1) Get the names of hobbies that “lastname” plays.

A1)

TRC > {H.Name | H in Hobby and (exists P in Person and P1 in Play) (P.P# = P1.P# and P1.H# = H.H# and P.Name = “lastname”) };

Hobby

Name
Chess
Dancing

Q2) Get the names of persons who play Bowling.

A2)

TRC > {P.Name | P in Person and ( exist P1 in Play and H in Hobby)(P1.H# = H.H# and H.Name = “Bowling” and P.P# =P1.P#) };

Person

Name
Smith
Jones

Q3) Get the names of persons who play a hobby more than 3 times.

A3)

TRC > {P.Name | P in Person and ( exist P1 in Play)(P.P# = P1.P# and P1.Times > 3)};

Person

Name
Smith
Jones
Lastname

Q4) Get the names of persons who play either chess or dancing

A4)

TRC > {P.Name | P in Person and (exist P1 in play and H in Hobby)( H.Name = "chess" or H.Name = "Dancing) and P1.H# = H.H# and P.P# = P1.P#)};

Person

Name
Smith
Jones
Blake
Lastname

Q5) Get the names of persons who play both chess and dancing.

A5)

TRC > {P.Name | P in Person and (exist P1 in play and H in Hobby)( H.Name = "chess" and H.Name = "Dancing and P1.H# = H.H# and P.P# = P1.P#)};

Person

Name
Smith
Jones
Blake
Lastname

Q6) Get the person name/hobby name pairs such that the indicated person plays the indicated hobby.

A6)

TRC > {P.Name , H.Name | P in Person and H in Hobby (exist P1 in play)(P.P# = P1.P# and P1.H# = H.H# )};

Name	H.Name
Smith	Bowling
Smith	Chess
Smith	Dancing
Smith	Hiking
Smith	Skating
Smith	Ski
Jones	Bowling
Jones	Chess
Jones	Dancing
Jones	Hiking
Blake	Chess
Blake	Dancing
Lastname	Chess
Lastname	Dancing

Q7) Get the names of persons who do not play Ski.

A7)

TRC > {P.Name | P in Person and (exist P1 in Play and H in Hobby)(H.Name != "Ski" and P.P# = P1.P# and P1.H# = H.H# )};

#### Person

Name
Jones
Blake
Lastname
Adams

Q8) Get the names of persons who do not play any hobby.

A8)

TRC > {P.Name | P in Person and not( exist P1 in Play)(P.P# = P1.P#)};

Person	
Name	
Adams	

Q9) Get the names of persons who play all hobbies.

A9) TRC > {P.Name | P in Person and (forall H in Hobby) and (exist P1 in Play))(P1.H# = H.H# and P.P# = P1.P#)};

Person	
Name	
Smith	

Q10) Get the names of persons who play all hobbies that “lastname” plays.

A10)

TRC > {P.Name | P in Person and (exists P1 in Play and H in Hobby)( P.Name = 'Lastname' or P1.H# = H.H# )};

Person	
Name	
Smith	
Jones	
Blake	

Q11) Get the names of persons who play only all the hobbies that “lastname” plays.

A11)

TRC > {P.Name | P in Person and P.Name = 'Lastname'};

Person	
Name	
Blake	

Q12) Get the names of persons who play all hobbies except Skating and Ski.

A12)

TRC > {P.Name | P in Person and (forall H in Hobby)((H.Name = 'Skating' and H.Name = 'Ski' and not(exists P1 in Play )(P.P# = P1.P# and P1.H# = H.H#)) or (H.Name != 'Skating' and H.Name != 'Ski' and (exists P1 in Play)(P.P# = P1.P# and P1.H3 = H.H#)))));

### Person

Name
Jones
Blake
Lastname

Q13) Get the names of persons, the number of hobbies and total number of times they play those hobbies.

A13)

TRC > {P.Name, count(P1.H#), sum(P1.times) | P in Person and P1 in Play and P.P# = P1.P#};

Name	H#	Times
Smith	H1	3
Smith	H2	2
Smith	H3	4
Smith	H4	2
Smith	H5	1
Smith	H6	1
Jones	H1	3
Jones	H2	4
Jones	H3	5
Jones	H4	2
Blake	H2	2
Blake	H3	3
Lastname	H2	3
Lastname	H3	4

Q14) Get the names of persons who play hobbies but play the least number of hobbies.

A14)

TRC > {P.Name | P in Person, P1 in Play( min(count(P1.H#)) and P.P# =  
P1.P#)};

Person

Name
Blake
Lastname