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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** | **Hobby\_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 };

|  |
| --- |
| **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 |