|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | T1 |  |  | | P | R | C | | 10 | a | 5 | | 15 | b | 8 | | 25 | a | 6 | | 15 | b | 5 | | 10 | b | 6 | | |  |  |  | | --- | --- | --- | | T2 |  |  | | A | B | C | | 10 | b | 6 | | 25 | c | 3 | | 10 | b | 5 | | 25 | c | 6 | | |  |  |  | | --- | --- | --- | | T3 |  |  | | A | B | C | | 10 | b | 6 | | 30 | c | 3 | | 25 | c | 6 | |

1. SigmaT1(P=10) =

|  |  |  |
| --- | --- | --- |
| P | R | C |
| 10 | a | 5 |
| 10 | b | 6 |

1. SigmaT2(A=10 and C>5) =

|  |  |  |
| --- | --- | --- |
| A | B | C |
| 10 | b | 6 |

1. PiT1(R) =

|  |
| --- |
| R |
| a |
| b |
| a |
| b |
| b |

1. PiT2(A, B) =

|  |  |
| --- | --- |
| A | B |
| 10 | b |
| 25 | c |
| 10 | b |
| 25 | c |

1. T1XT3 =

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| P | R | C | A | B | C |
| 10 | a | 5 | 10 | b | 6 |
| 15 | b | 8 | 10 | b | 6 |
| 25 | a | 6 | 10 | b | 6 |
| 15 | b | 5 | 10 | b | 6 |
| 10 | b | 6 | 10 | b | 6 |
| 10 | a | 5 | 30 | c | 3 |
| 15 | b | 8 | 30 | c | 3 |
| 25 | a | 6 | 30 | c | 3 |
| 15 | b | 5 | 30 | c | 3 |
| 10 | b | 6 | 30 | c | 3 |
| 10 | a | 5 | 25 | c | 6 |
| 15 | b | 8 | 25 | c | 6 |
| 25 | a | 6 | 25 | c | 6 |
| 15 | b | 5 | 25 | c | 6 |
| 10 | b | 6 | 25 | c | 6 |

1. T1 natural-join T3 =

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| C | P | R | A | B |
| 6 | 25 | a | 25 | c |
| 6 | 25 | a | 10 | b |
| 6 | 10 | b | 25 | c |
| 6 | 10 | b | 10 | b |

1. T1 equijoin T3(T1.C = T3.C) =

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| P | R | C | A | B | C |
| 25 | a | 6 | 25 | c | 6 |
| 25 | a | 6 | 10 | b | 6 |
| 10 | b | 6 | 25 | c | 6 |
| 10 | B | 6 | 10 | b | 6 |

1. T1 equijoin T3(T1.P = T3.A) =

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| P | R | C | A | B | C |
| 10 | a | 5 | 10 | b | 6 |
| 25 | a | 6 | 25 | c | 6 |
| 10 | b | 6 | 10 | b | 6 |

1. T2 union T3 =

|  |  |  |
| --- | --- | --- |
| A | B | C |
| 10 | b | 6 |
| 25 | c | 3 |
| 10 | b | 5 |
| 25 | c | 6 |
| 30 | c | 3 |

1. T2 intersect T3 =

|  |  |  |
| --- | --- | --- |
| A | B | C |
| 10 | b | 6 |
| 25 | c | 6 |

1. T2 – T3 =

|  |  |  |
| --- | --- | --- |
| A | B | C |
| 25 | c | 3 |
| 10 | b | 5 |