Daniel Neal

Alex Lundin

p1 = a∧b

p2 = a⊕b

p3 = a∧(¬b∨c)

p4 = a→(b→c)

p5 = (a∧b)∨(b∧c)∨(a∧c)

Write the complete truth table for each predicate.

p = (a∧b)∨(b∧c)∨(a∧c)

Write the complete truth table for the predicate.

(1) List all pairs of rows from your table that satisfy General Active Clause Coverage (GACC) with respect to each clause.

(2) List all pairs of rows from your table that satisfy Correlated Active Clause Coverage (CACC) with respect to each clause.

(3) List all pairs of rows from your table that satisfy Restricted Active Clause Coverage (RACC) with respect to each clause.

(4) List all 4-tuples of rows from your table that satisfy General Inactive Clause Coverage (GICC) with respect to each clause. List any infeasible GICC test requirements.

(5) List all 4-tuples of rows from your table that satisfy Restricted Inactive Clause Coverage (RICC) with respect to each clause. List any infeasible RICC test requirements.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | a | b | c | (aɅb) | a⊕b | a∧(¬b∨c) | a→(b→c) | **(aɅb) V (bɅc) V (aɅc)** |
| 1 | T | T | T | T | F | T | **T** | **T** |
| 2 | T | T | F | T | F | F | **T** | **T** |
| 3 | T | F | T | F | T | T | **T** | **T** |
| 4 | T | F | F | F | T | F | **T** | **F** |
| 5 | F | T | T | F | T | F | **T** | **T** |
| 6 | F | T | F | F | T | F | **T** | **F** |
| 7 | F | F | T | F | F | F | **F** | **F** |
| 8 | F | F | F | F | F | F | **T** | **F** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | a | b | (aɅb) | **Pa** | **Pb** |
| 1 | T | T | T | **\*** | **\*** |
| 2 | T | F | F |  | **\*** |
| 3 | F | T | F | **\*** |  |
| 4 | F | F | F |  |  |

(1)GACC

Pb = {1, 3} , {2.4}

(2)CACC

Same as GACC

(3)RACC

Pb): {2,4}, {5,7}

(4)(GICC)

Pa

Pb

Pc

(5)(RICC)

Same as GICC

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | a | b | a⊕b | **Pa** | **Pb** |
| 1 | T | T | F | **\*** | **\*** |
| 2 | T | F | T | **\*** | **\*** |
| 3 | F | T | T | **\*** | **\*** |
| 4 | F | F | F | **\*** | **\*** |

(1)GACC

Pb = {1, 3} , {2.4}

(2)CACC

Same as GACC

(3)RACC

Pb): {2,4}, {5,7}

(4)(GICC)

Pa

Pb

Pc

(5)(RICC)

Same as GICC

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | a | b | c | a∧(¬b∨c) | **Pa** | **Pb** | **Pc** |
| 1 | T | T | T | T | **\*** |  |  |
| 2 | T | T | F | F | **\*** | **\*** |  |
| 3 | T | F | T | T | **\*** |  |  |
| 4 | T | F | F | T | **\*** | **\*** |  |
| 5 | F | T | T | F | **\*** |  |  |
| 6 | F | T | F | F | **\*** |  |  |
| 7 | F | F | T | F | **\*** |  |  |
| 8 | F | F | F | F | **\*** |  |  |

Pa

T ∧(¬b∨c) X F ∧(¬b∨c)

T X F

**T**

Pb

a∧(T∨c) X a∧(F∨c)

a∧(T) X a∧(c)

a = T, c = F

Pc

a ∧(¬b∨T) X a ∧(¬b∨F)

(1)GACC

Pa (1,6)

Pb (2,4)

Pc

(2)CACC

Same as GACC

(3)RACC

Same as GACC

(4)(GICC)

Pa

Pb

Pc

(5)(RICC)

Same as GICC

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | a | b | c | a→(b→c) | **Pa** | **Pb** | **Pc** |
| 1 | T | T | T | **T** | **\*** |  | **\*** |
| 2 | T | T | F | **T** |  | **\*** | **\*** |
| 3 | T | F | T | **T** |  |  |  |
| 4 | T | F | F | **T** |  | **\*** |  |
| 5 | F | T | T | **T** |  |  |  |
| 6 | F | T | F | **T** | **\*** |  |  |
| 7 | F | F | T | **F** |  |  |  |
| 8 | F | F | F | **T** |  |  |  |

(1)GACC

Pa (1,6)

Pb (2,4)

Pc

(2)CACC

Same as GACC

(3)RACC

Same as GACC

(4)(GICC)

Pa

Pb

Pc

(5)(RICC)

Same as GICC

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | a | b | c |  | **(aɅb) V (bɅc) V (aɅc)** | **Pa** | **Pb** | **Pc** |
| 1 | T | T | T |  | **T** |  |  |  |
| 2 | T | T | F |  | **T** | **\*** | **\*** |  |
| 3 | T | F | T |  | **T** | **\*** |  | **\*** |
| 4 | T | F | F |  | **F** |  | **\*** | **\*** |
| 5 | F | T | T |  | **T** |  | **\*** | **\*** |
| 6 | F | T | F |  | **F** | **\*** |  | **\*** |
| 7 | F | F | T |  | **F** | **\*** | **\*** |  |
| 8 | F | F | F |  | **F** |  |  |  |

(1)GACC

Pa (1,6)

Pb (2,4)

Pc

(2)CACC

Same as GACC

(3)RACC

Same as GACC

(4)(GICC)

Pa

Pb

Pc

(5)(RICC)

Same as GICC