NAMA : Muhammad Takdim

NIM H071191042

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| P | Q | | R | | (P→P)→P | | P → (P→P) | | (P˅Q)→(P˄Q) | P→(Q→P) | | (P˄¬Q)˅¬(P↔Q) | | P ˅(Q˄R)→(P˄R)˅Q |
| 1 | 1 | | 1 | | 1 | | 1 | | 1 | 1 | | 0 | | 1 |
| 1 | 0 | | 0 | | 1 | | 1 | | 0 | 1 | | 1 | | 0 |
| 0 | 1 | | 0 | | 0 | | 1 | | 0 | 1 | | 1 | | 1 |
| 0 | 0 | | 1 | | 0 | | 1 | | 1 | 1 | | 0 | | 1 |
| P | | Q | | R | | (¬P→Q)˅((P˄¬R)↔Q) | | | (P˅Q)˄(P→R˄Q)˄(Q→¬R˄P) | |
| 1 | | 1 | | 1 | | 1 | | | 0 | |
| 1 | | 0 | | 0 | | 1 | | | 0 | |
| 0 | | 1 | | 0 | | 1 | | | 0 | |
| 0 | | 0 | | 1 | | 1 | | | 1 | |

1. Buatlah table kebenaran untuk setiap pertanyaan
2. Periksalah, apakah pernyataan berikut ini, Tautologi (valid), Kontradiksi, atau bukan

keduanya:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| P | Q | R | (P→Q)˄(¬Q→¬P) | (P→Q)→(P→¬Q) |
| 1 | 1 | 1 | 1 | 0 |
| 1 | 0 | 0 | 0 | 1 |
| 0 | 1 | 0 | 1 | 1 |
| 0 | 0 | 1 | 1 | 1 |

!Kontradiksi & !valid !Kontradiksi & !Valid

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| P | Q | R | (P˅Q→R)˅P˅Q | (P˅Q) ˄(P→R^Q)^(Q→¬R^P) | (P→(Q→R))→((P→Q)→(Q→R)) |
| 1 | 1 | 1 | 1 | 0 | 1 |
| 1 | 0 | 0 | 1 | 0 | 1 |
| 0 | 1 | 0 | 1 | 0 | 0 |
| 0 | 0 | 1 | 1 | 0 | 1 |

Valid Kontradiksi !kontradiksi & !Valid

1. Periksalah ekuivalensi (kesetaraan) dari pernyataan berikut:

|  |  |  |  |
| --- | --- | --- | --- |
| P | Q | P→Q | ˜P˅Q |
| 1 | 1 | 1 | 1 |
| 1 | 0 | 0 | 0 |
| 0 | 1 | 1 | 1 |
| 0 | 0 | 1 | 1 |

Ekuivalen

|  |  |  |  |
| --- | --- | --- | --- |
| P | Q | ˜(P˄Q) | ˜P˅˜Q |
| 1 | 1 | 0 | 0 |
| 1 | 0 | 1 | 1 |
| 0 | 1 | 1 | 1 |
| 0 | 0 | 1 | 1 |

Ekuivalen

|  |  |  |
| --- | --- | --- |
| P | Q | (P˅Q)˄(˜P→˜Q) |
| 1 | 1 | 1 |
| 1 | 0 | 1 |
| 0 | 1 | 0 |
| 0 | 0 | 0 |

Tidak Ekuivalen

|  |  |  |  |
| --- | --- | --- | --- |
| P | Q | (P˄Q)˅Q | (P→˜Q)→Q |
| 1 | 1 | 1 | 1 |
| 1 | 0 | 0 | 0 |
| 0 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 |

Ekuivalen

|  |  |  |  |
| --- | --- | --- | --- |
| P | Q | ((P→Q)→Q)→Q | P→Q |
| 1 | 1 | 1 | 1 |
| 1 | 0 | 0 | 0 |
| 0 | 1 | 1 | 1 |
| 0 | 0 | 1 | 1 |

Ekuivalen