Section III: Long or Partial Truth Table (10 marks)

Use a long or partial truth table to determine if the following argument is valid. If you use a partial truth table, you must complete one column entirely to get full marks. NOTE: Do not use the short truth table method. The conclusion is in the far right column.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| A | B | C | D | ~ (D → A) → B | B ∨ ~C | ~((A ∨ D) →C) | (A & ~B) → (C ∨ D) |
| T | T | T | T | T | T | T | T |
| T | T | T | F | T | T | T | T |
| T | T | F | T | T | T | T | T |
| T | T | F | F | T | T | T | T |
| T | F | T | T | T | T | F | T |
| T | F | T | F | T | T | F | T |
| T | F | F | T | T | T | T | T |
| T | F | F | F | T | T | T | F |
| F | T | T | T | T | T | T | T |
| F | T | T | F | T | T | T | T |
| F | T | F | T | T | T | T | T |
| F | T | F | F | T | T | T | T |
| F | F | T | T | T | T | F | T |
| F | F | T | F | T | F | F | T |
| F | F | F | T | F | T | T | T |
| F | F | F | F | T | T | F | T |

The following argument is invalid because of line 8, with all true premises and false conclusions.