Formal Model and Verification

Exercise 3: Propositional logic and BDD manipulations

1. Please construct the BDD for the following formula with the following steps.

$$((p \rightarrow q) \land (q \rightarrow r)) \rightarrow (p \rightarrow r)$$

Step (1a) Construct the BDD for $p \rightarrow q$.

Step (1b) Construct the BDD for $q \rightarrow r$.

Step (c) Construct the BDD for $(p \rightarrow q) \land (q \rightarrow r)$ out of the result of steps (1a) and (1b).

Step (1d) Construct the BDD for p→r.

Step (1e) Construct the BDD for ((p→q)∧(q→r))→(p→r) out of the result of steps (1c) and (1d).