Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

$$obdd(p \vee q \rightarrow (p \wedge q) \vee r)$$

Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

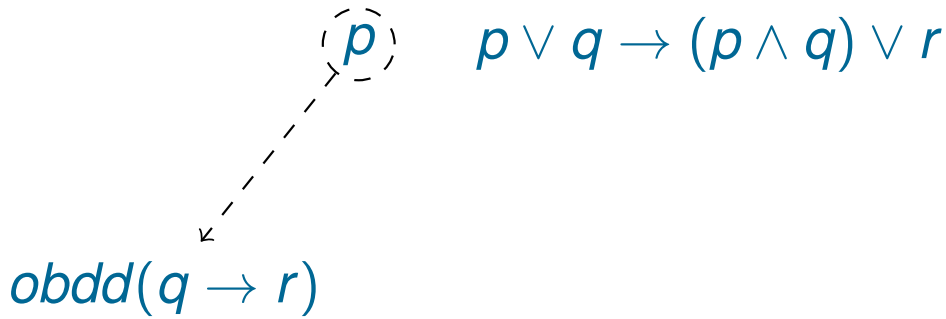
(p) $\quad p \vee q \rightarrow (p \wedge q) \vee r$

Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

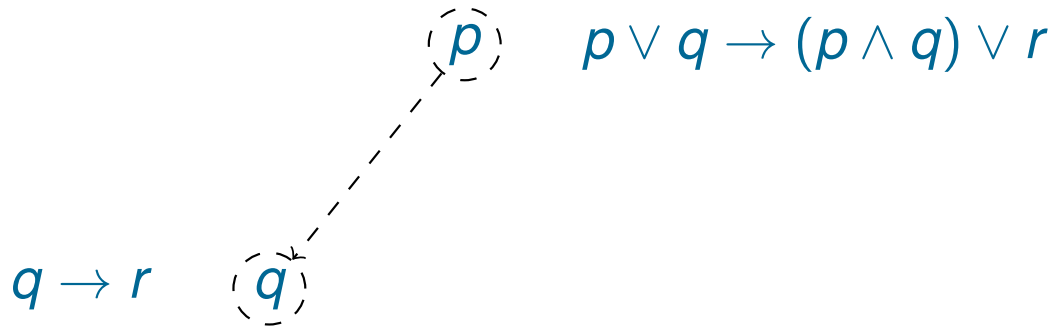


Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

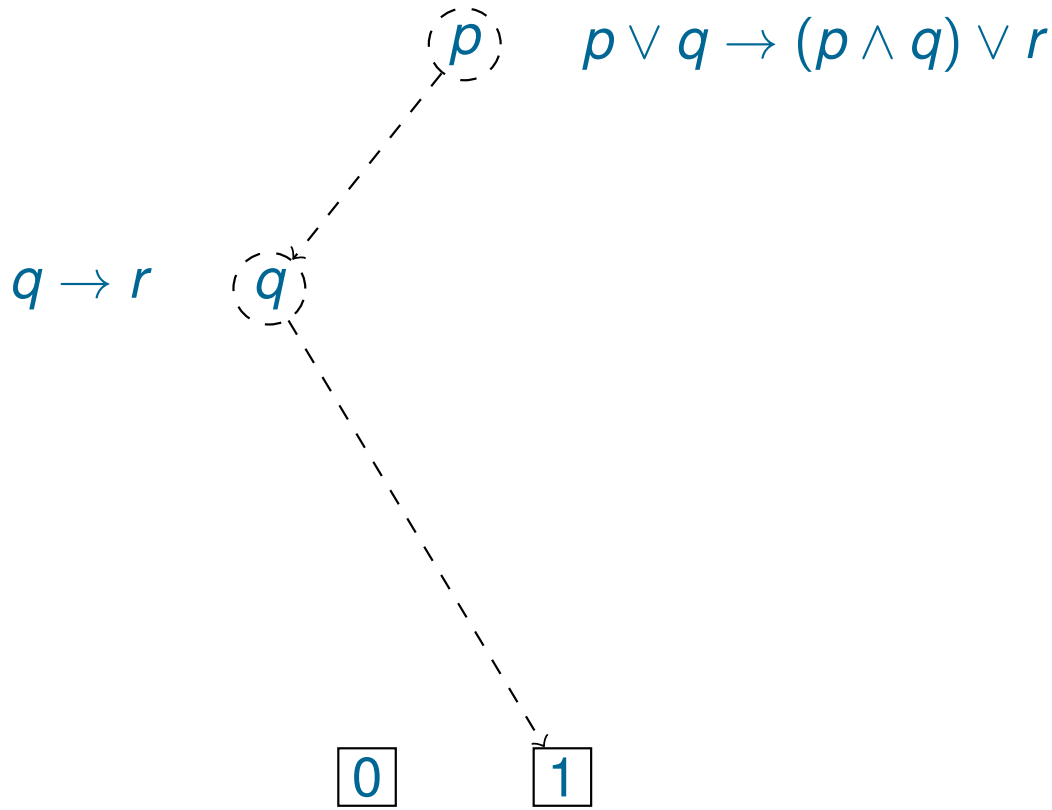


Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

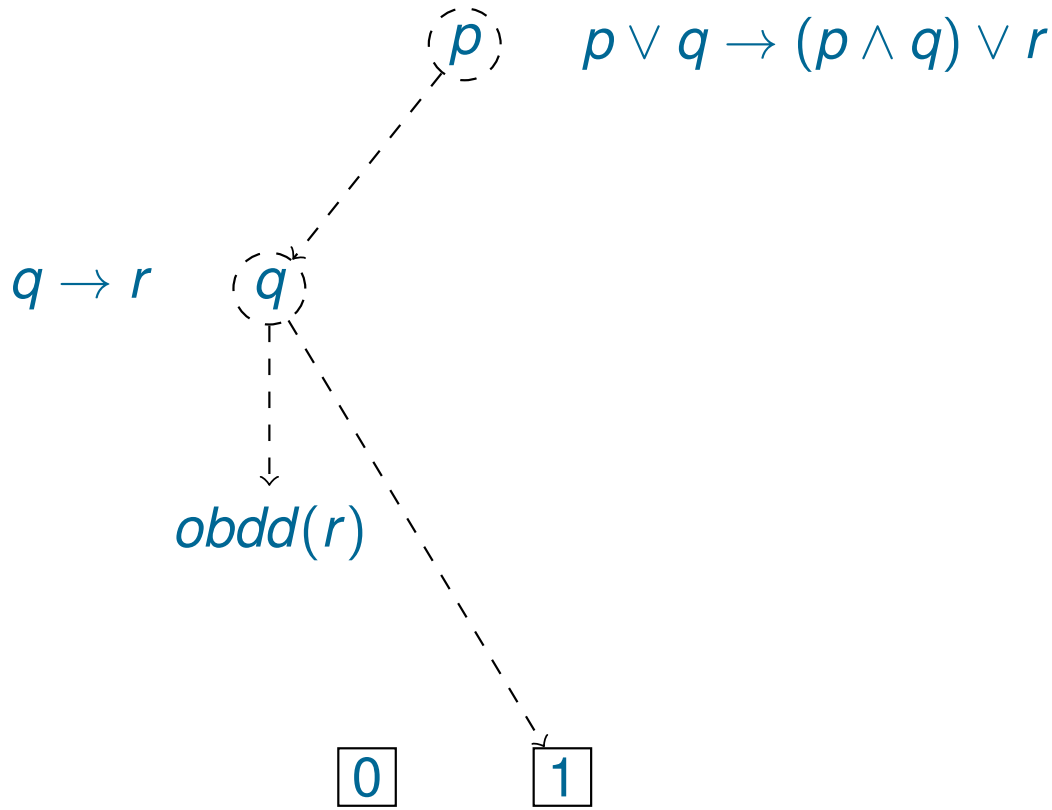


Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

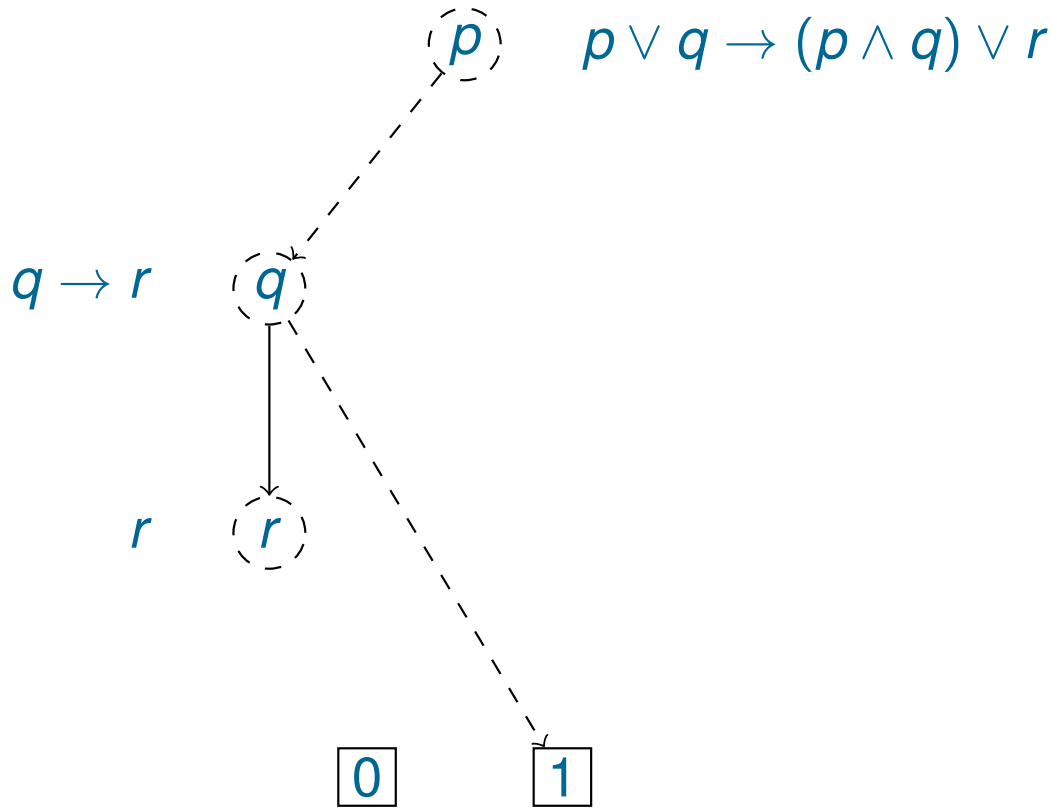


Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

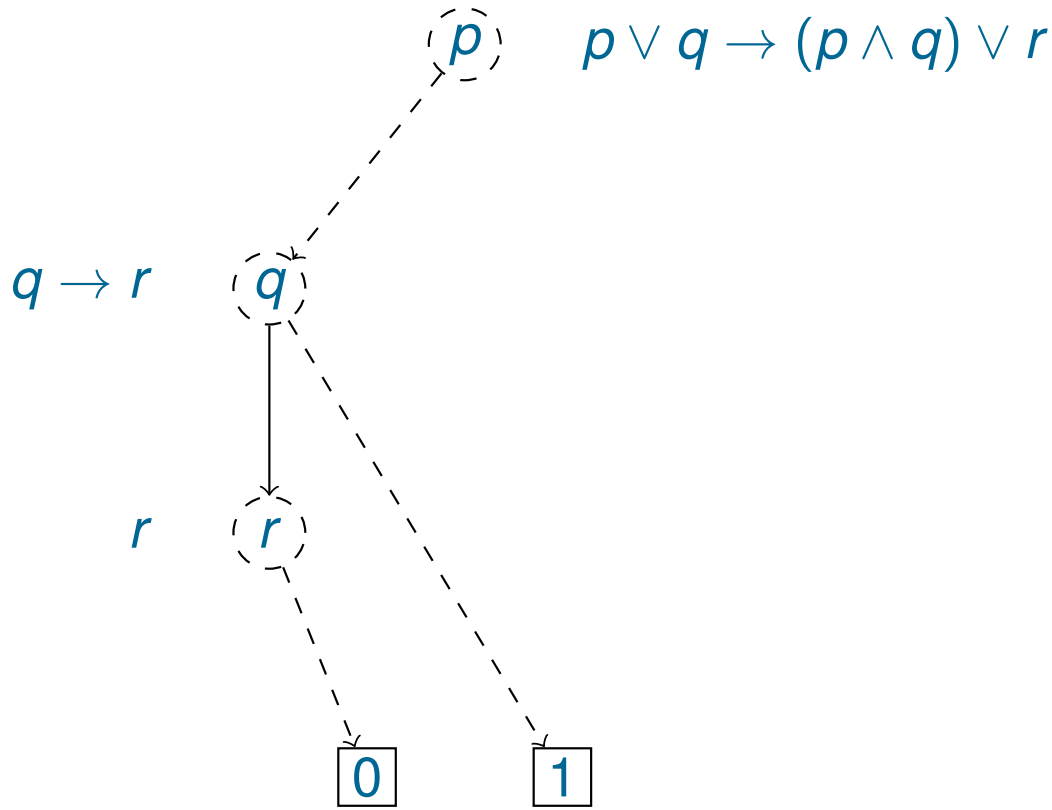


Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

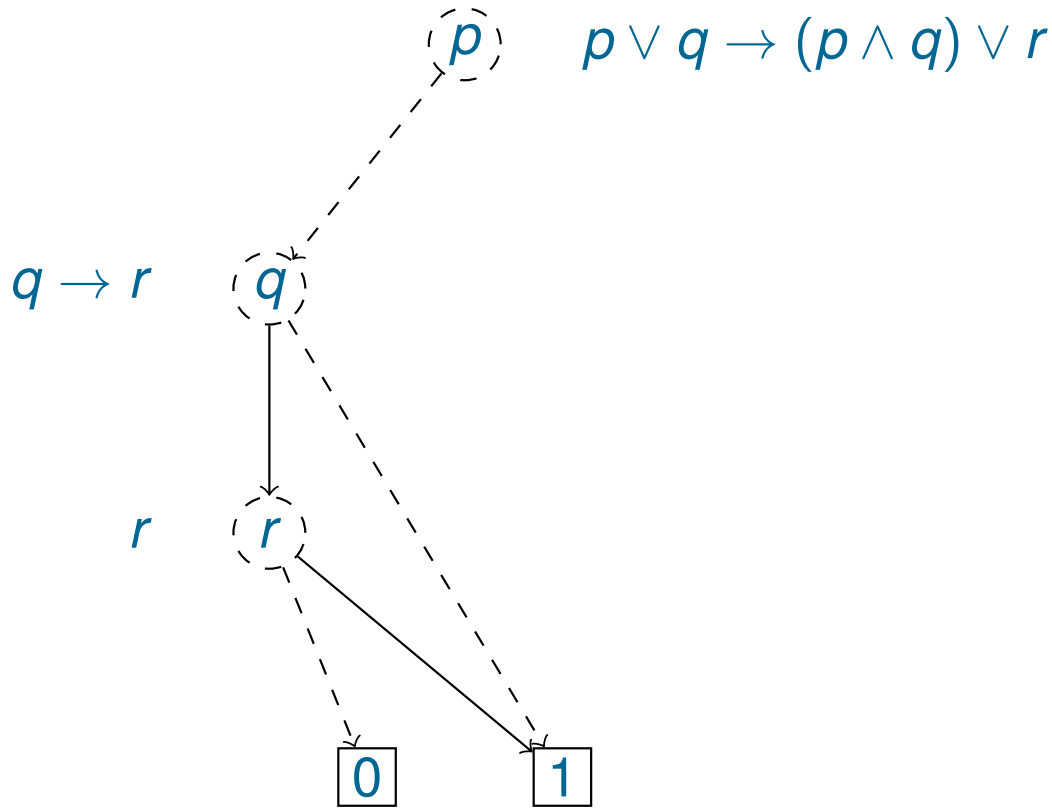


Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

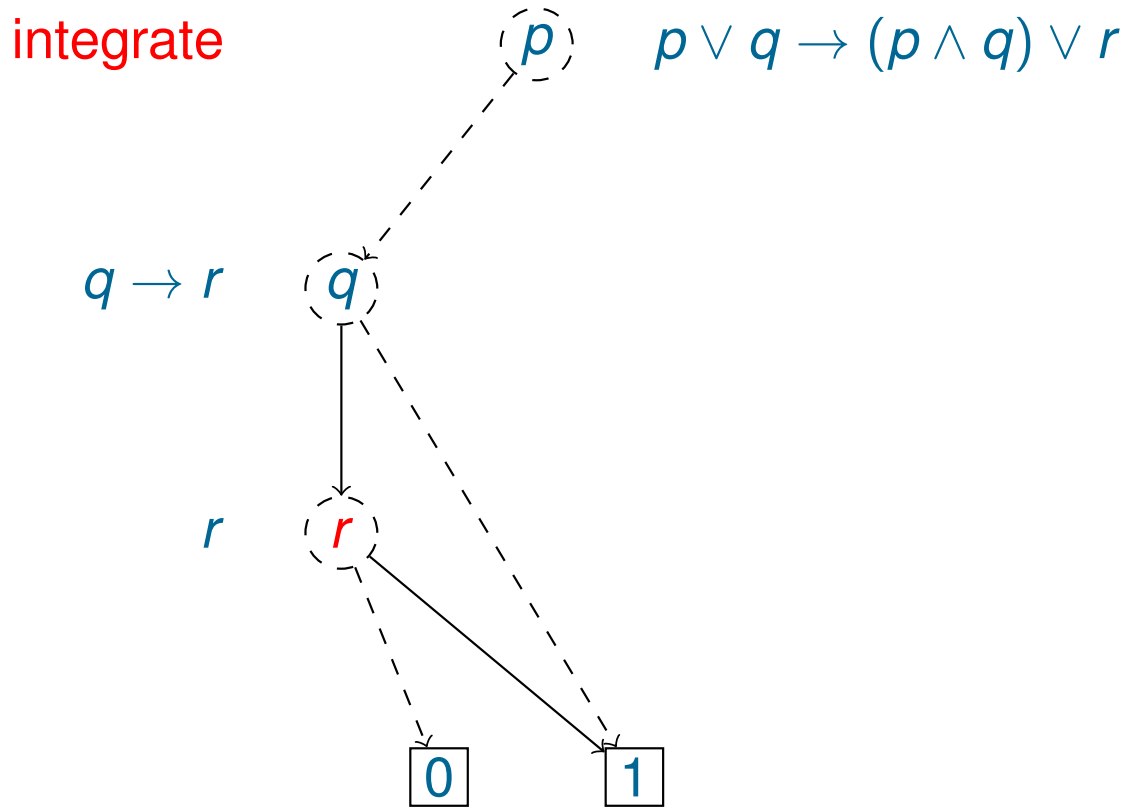


Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

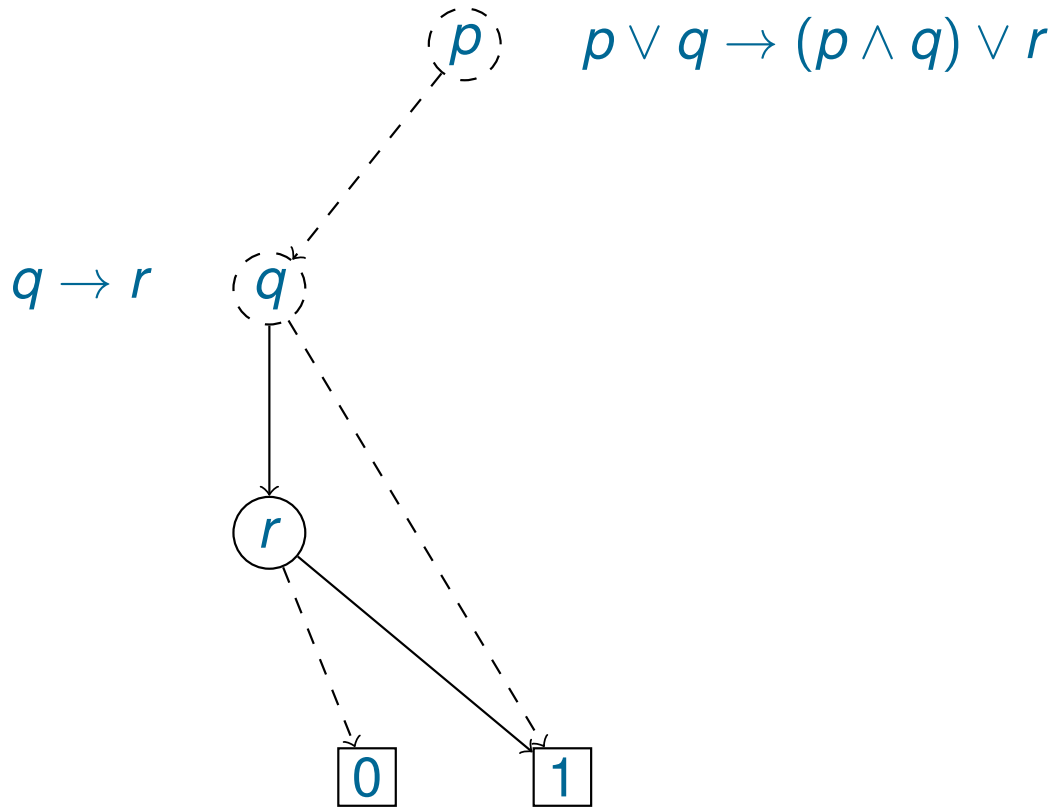


Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

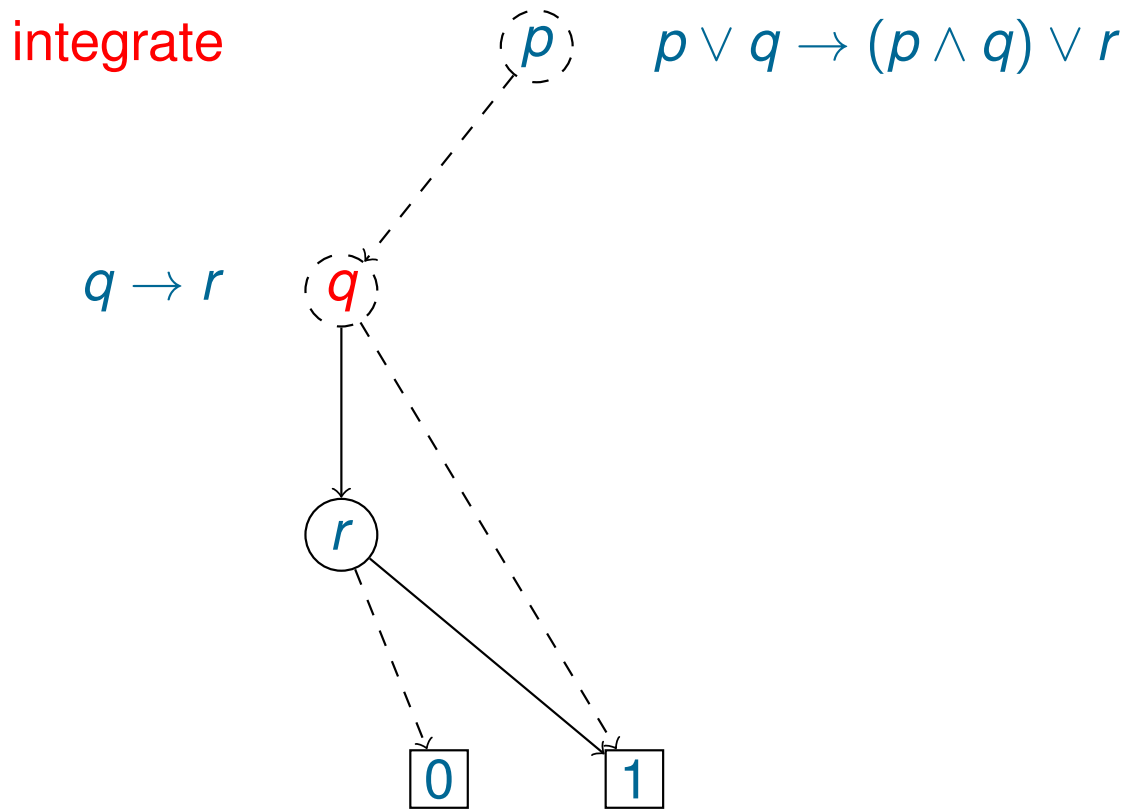


Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

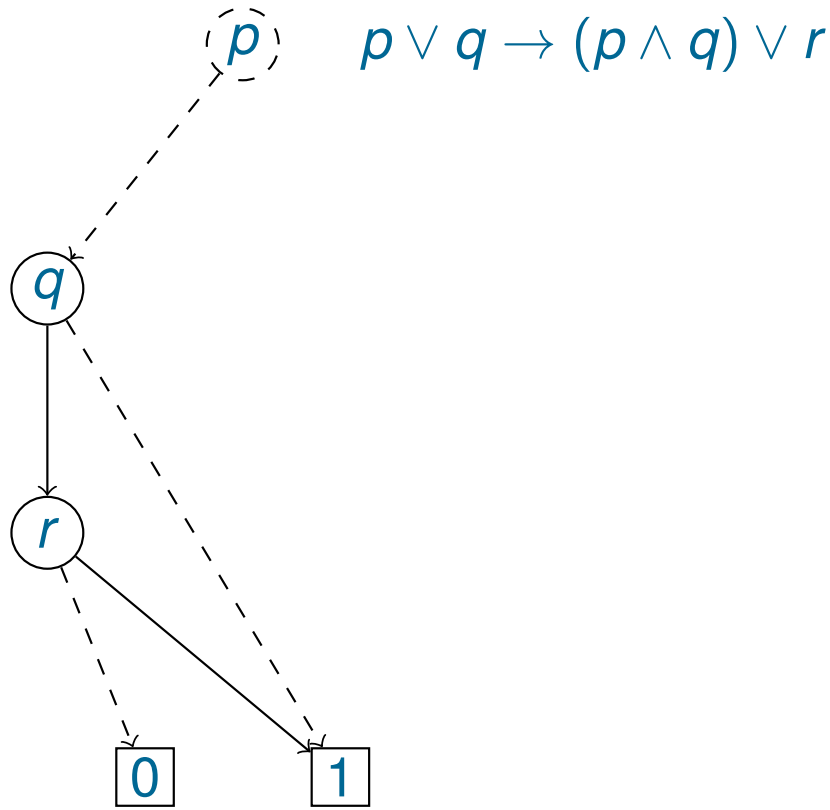


Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

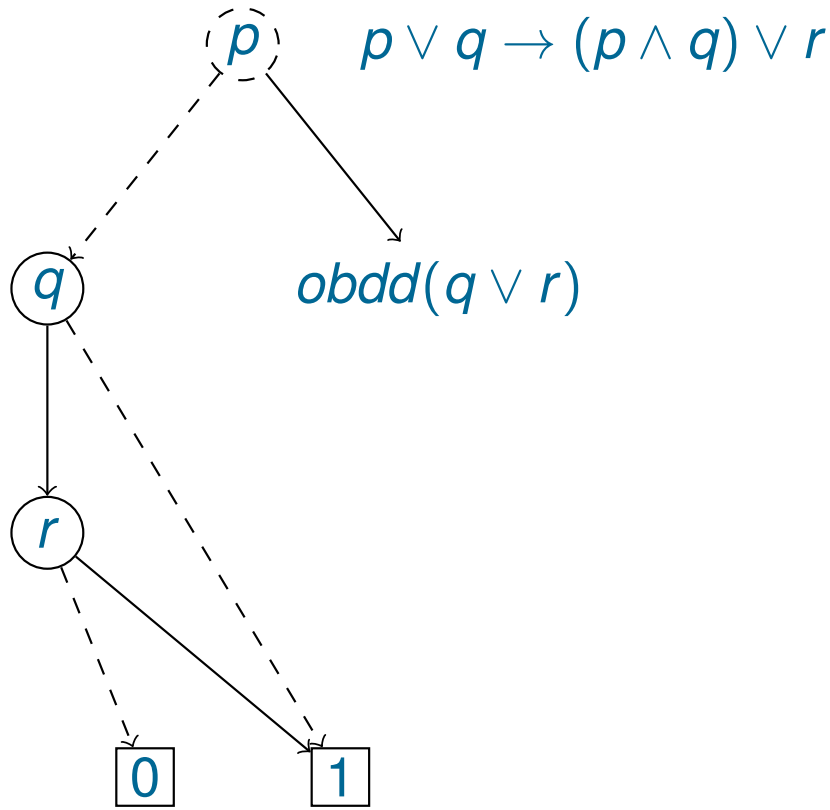


Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

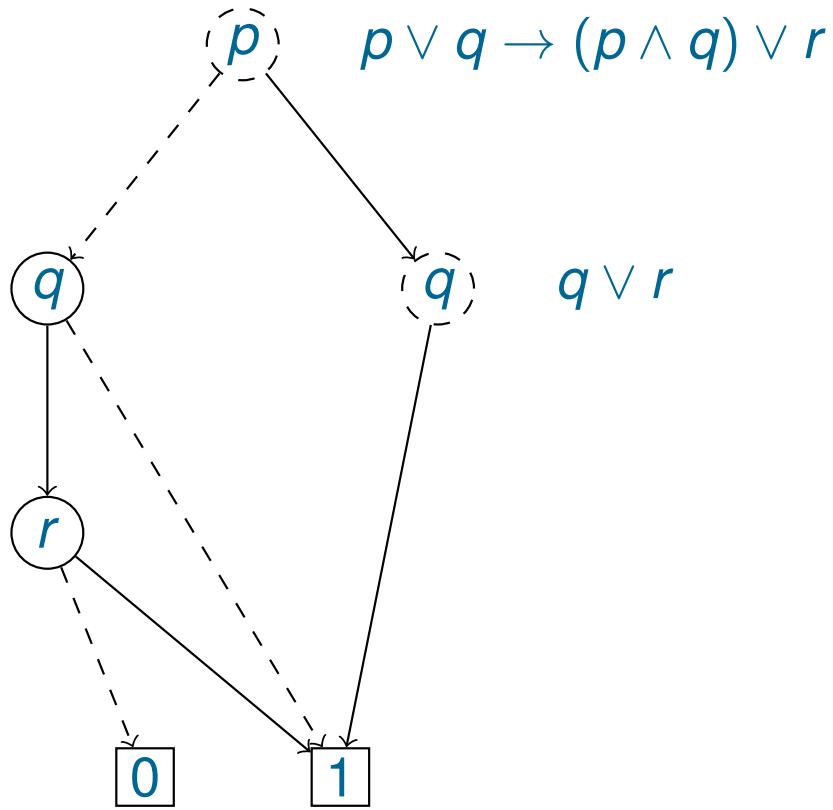


Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

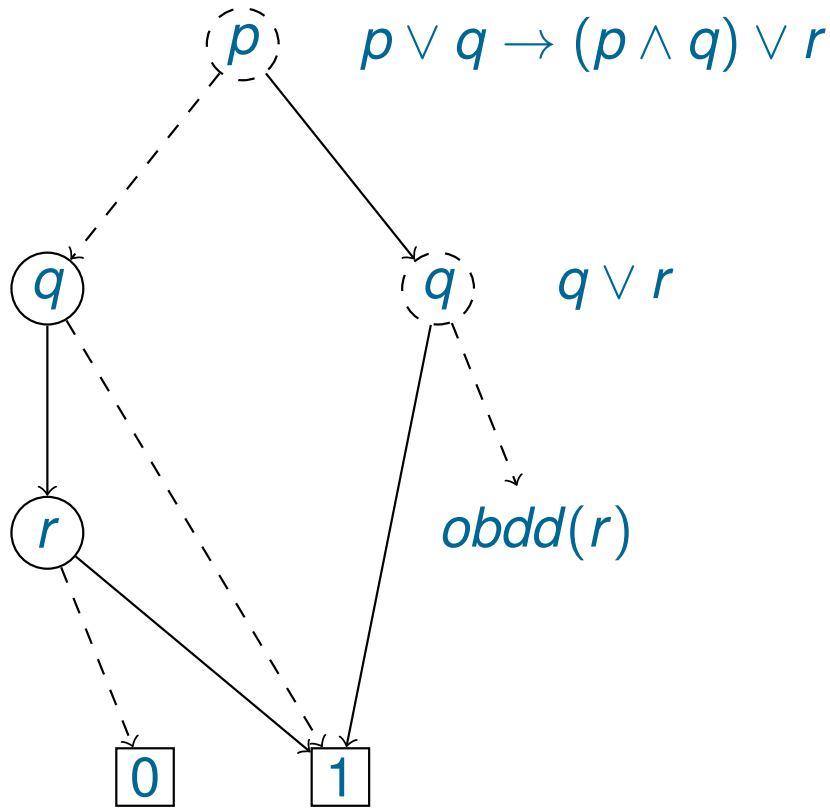


Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

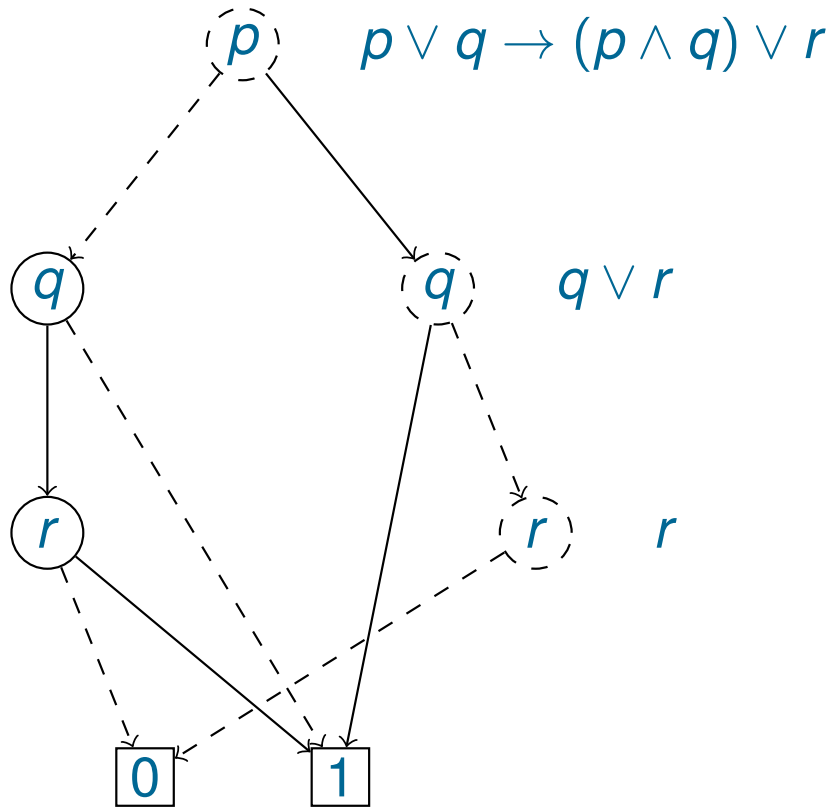


Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

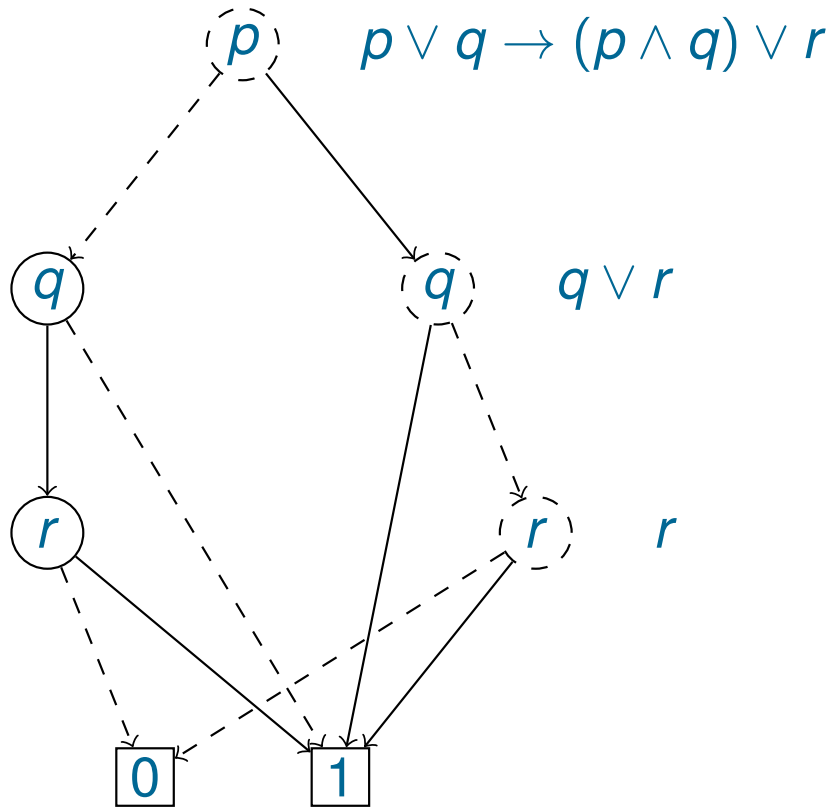


Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.



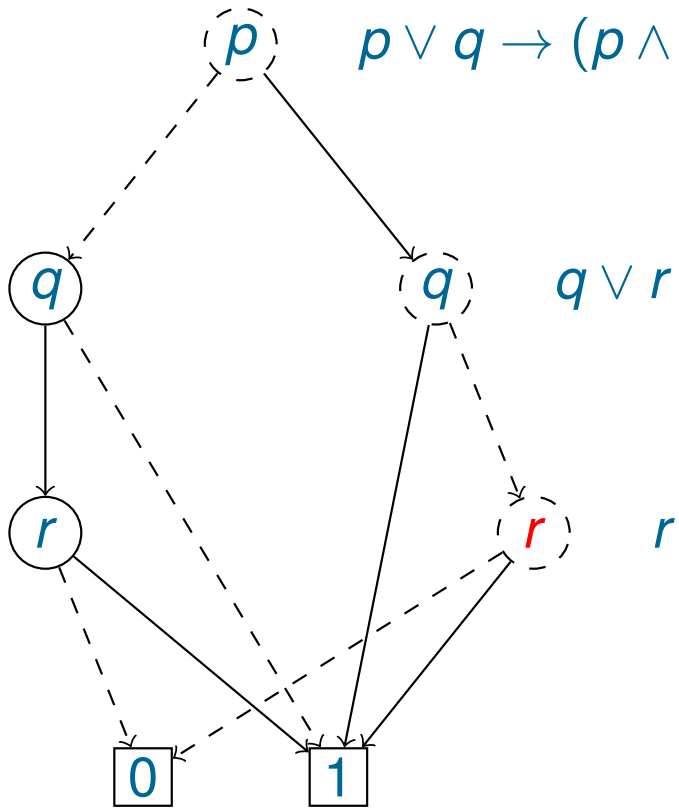
Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

integrate

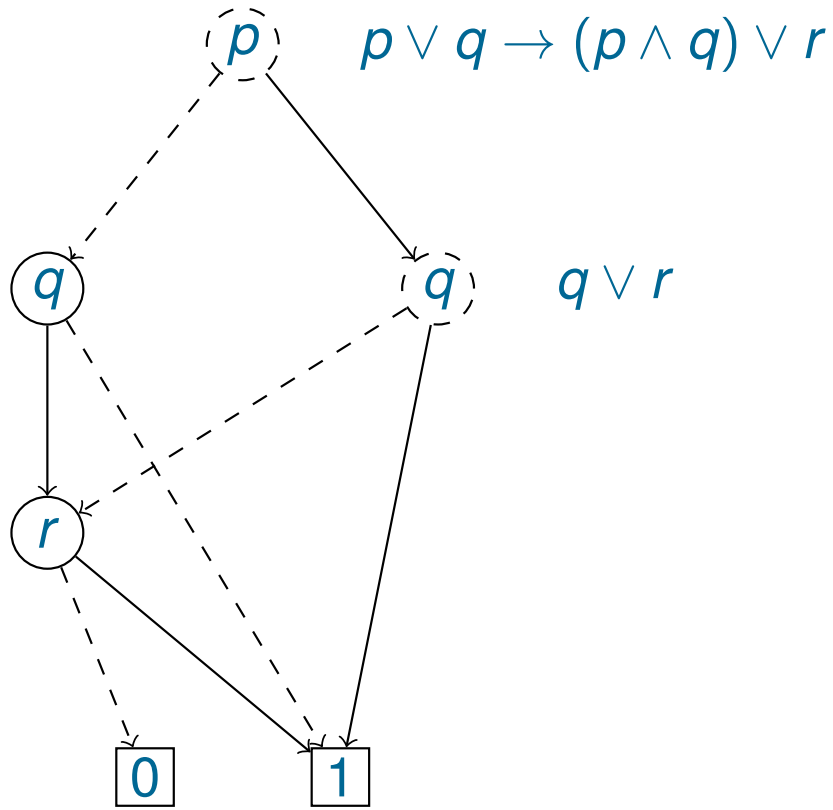


Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.



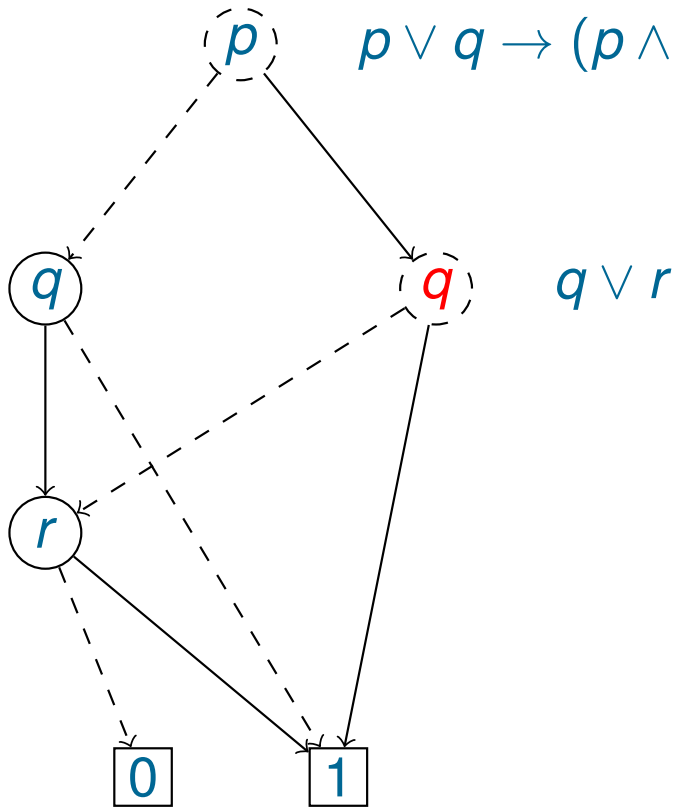
Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

integrate

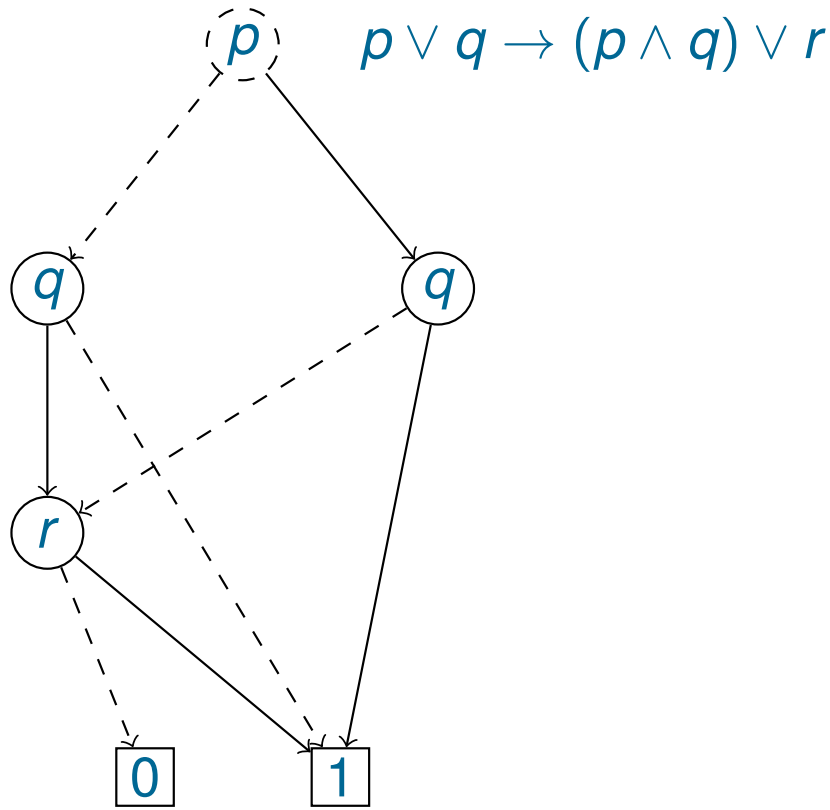


Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.



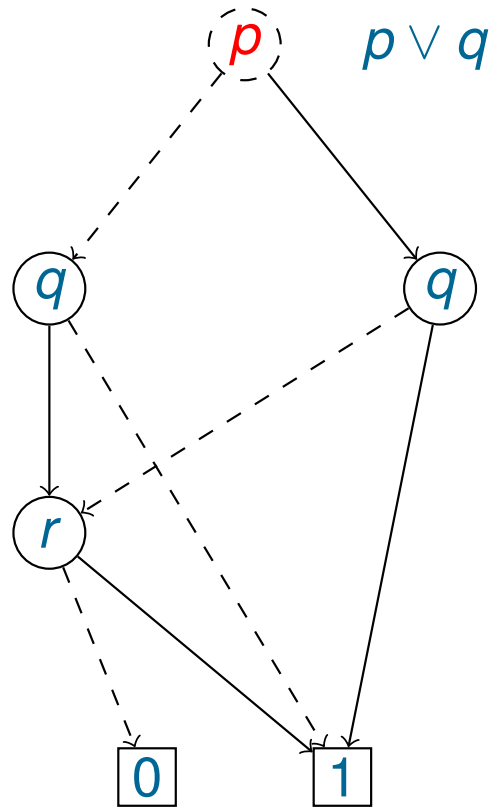
Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

Solution

The trace of the OBDD bbuilding algorithm is shown below.

integrate



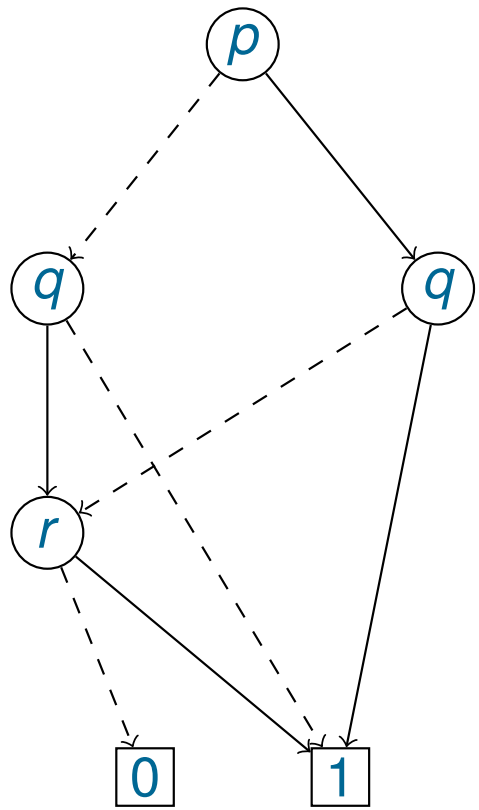
$p \vee q \rightarrow (p \wedge q) \vee r$

Exercise 6 (problem 1)

Show the OBDD for the formula $p \vee q \rightarrow (p \wedge q) \vee r$ and the order $p > q > r$.

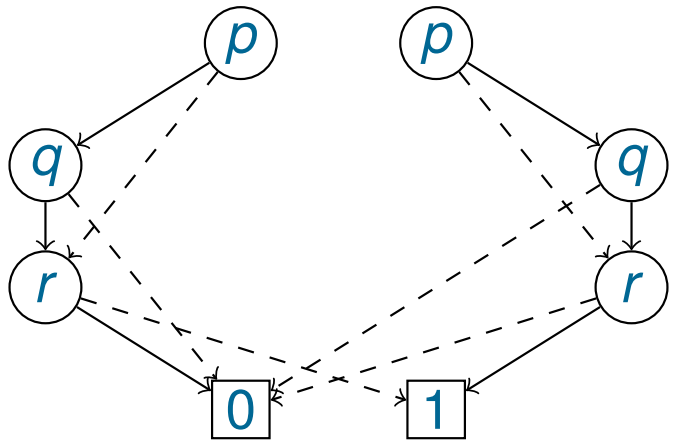
Solution

The trace of the OBDD bbuilding algorithm is shown below.



Exercise 6 (problem 2)

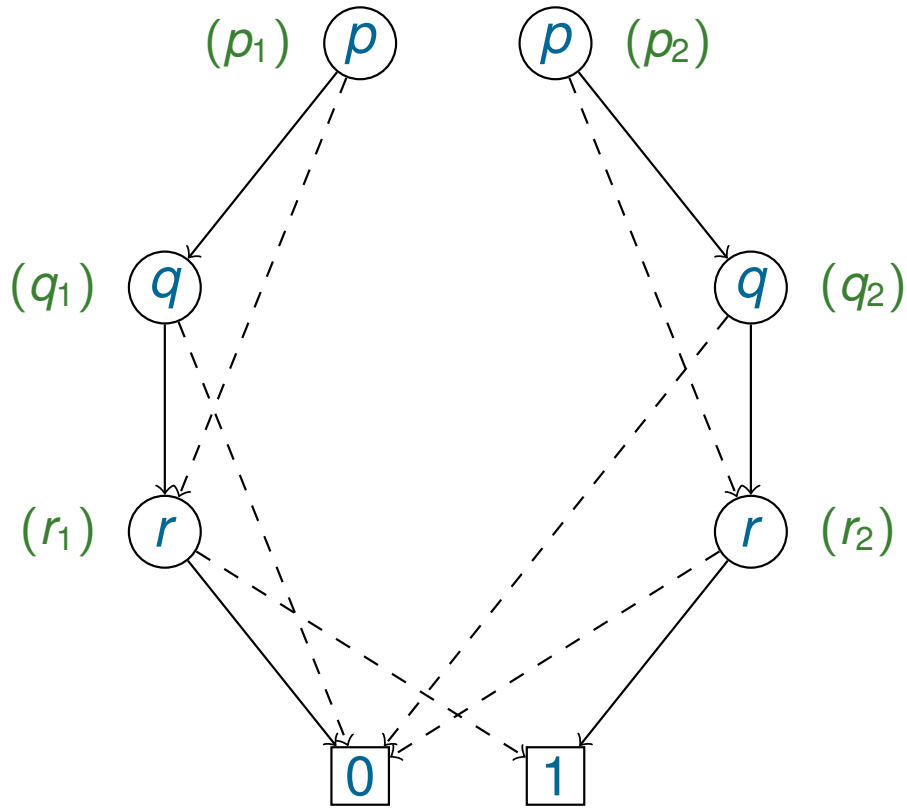
Consider the following global dag D.



It has two different subdags d_1, d_2 rooted at p. Let d_1, d_2 represent formulas F_1, F_2, respectively. Draw the global dag D after the OBDD for $F_1 \vee F_2$ has been integrated into it.

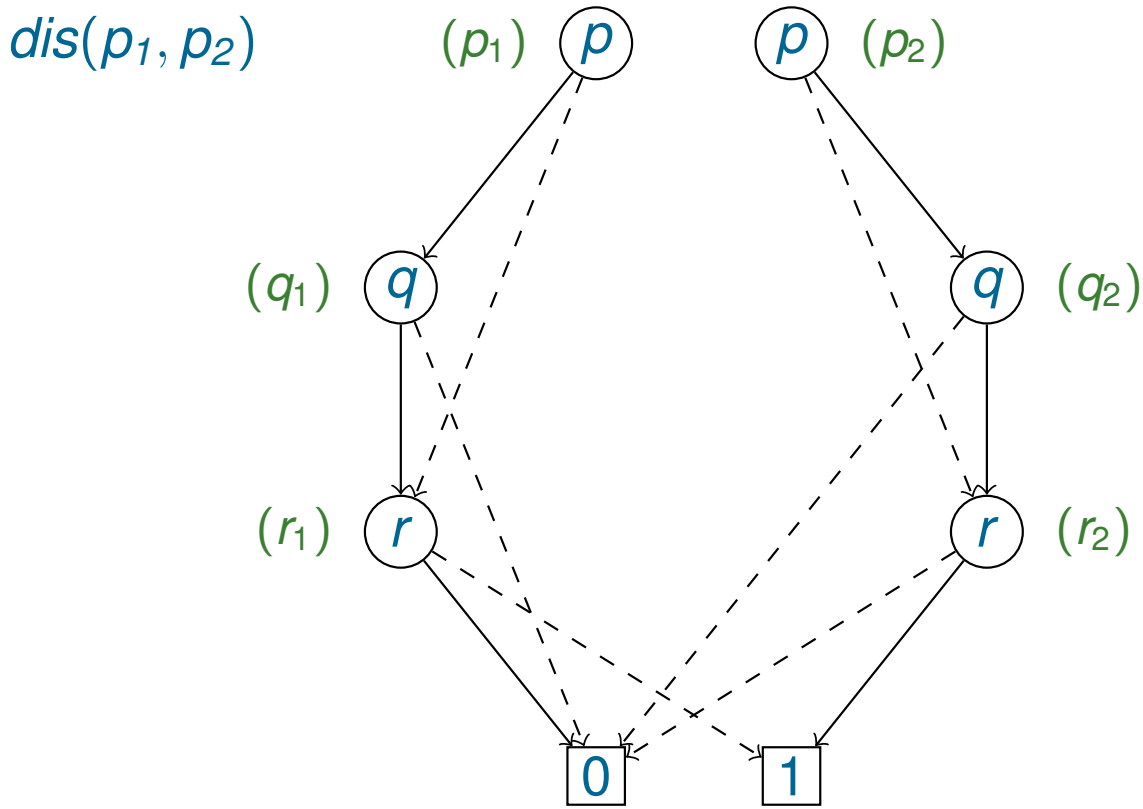
Solution

We show how the disjunction algorithm works on this OBDD.



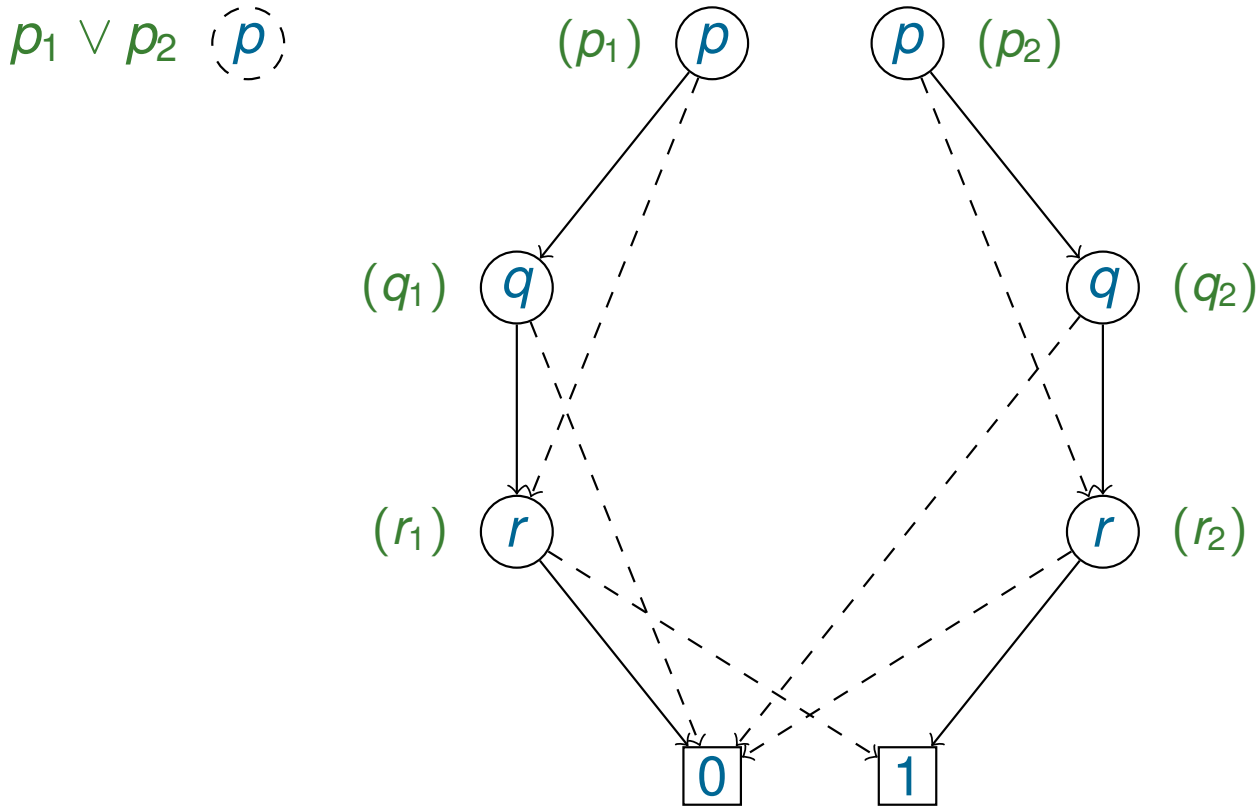
Solution

We show how the disjunction algorithm works on this OBDD.



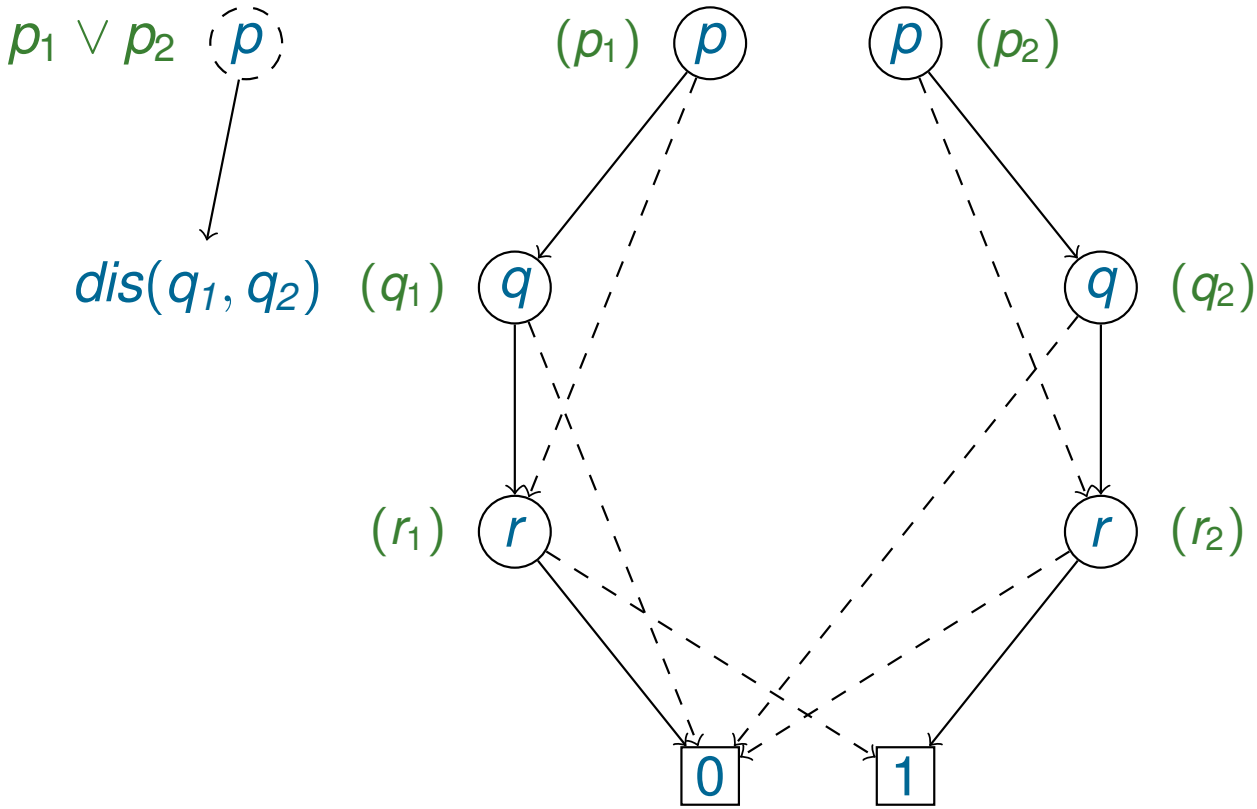
Solution

We show how the disjunction algorithm works on this OBDD.



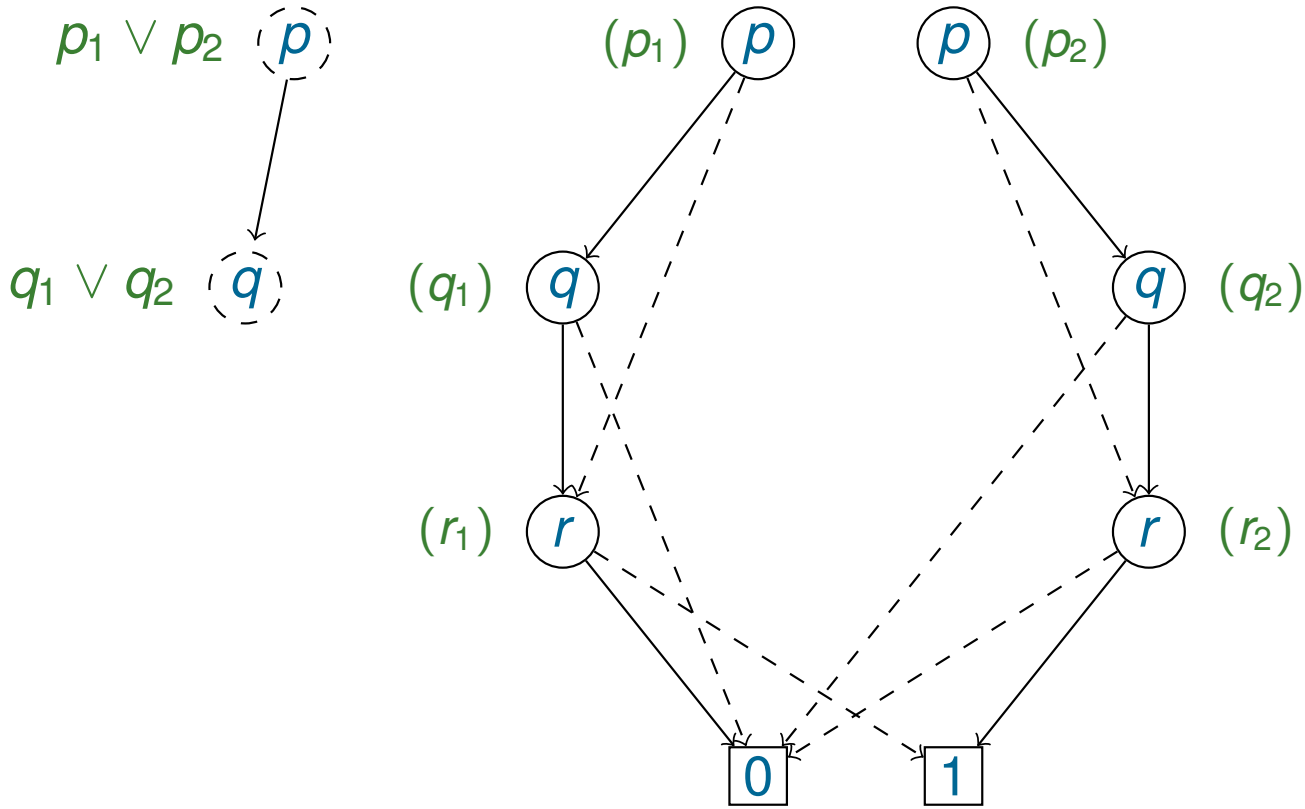
Solution

We show how the disjunction algorithm works on this OBDD.



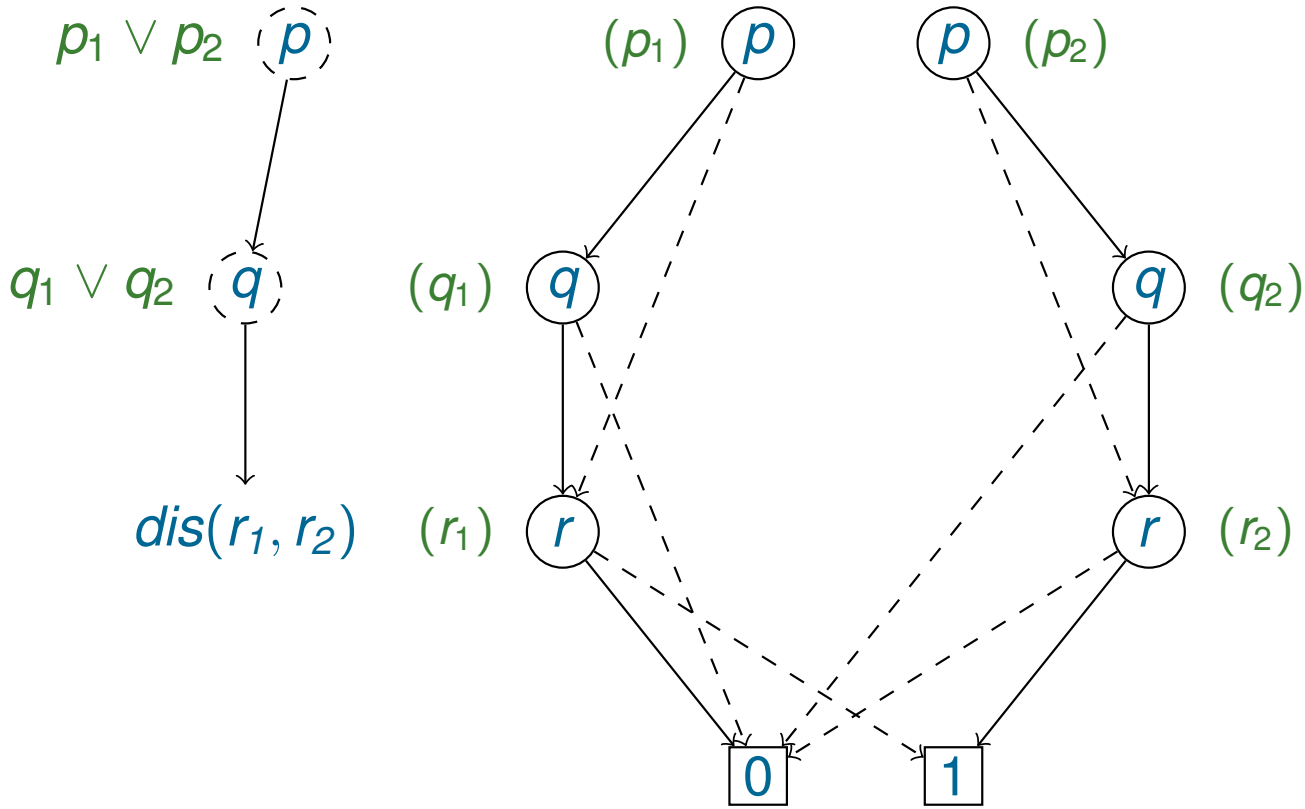
Solution

We show how the disjunction algorithm works on this OBDD.



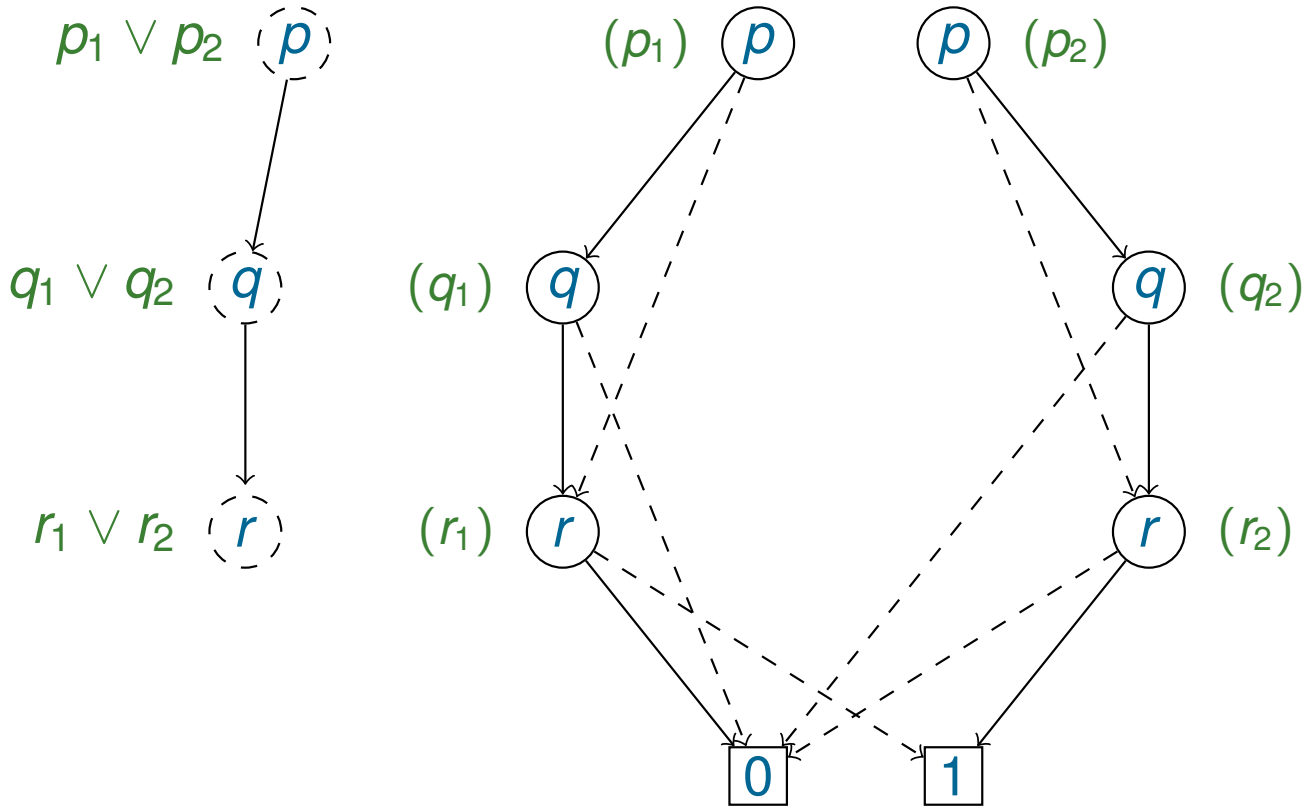
Solution

We show how the disjunction algorithm works on this OBDD.



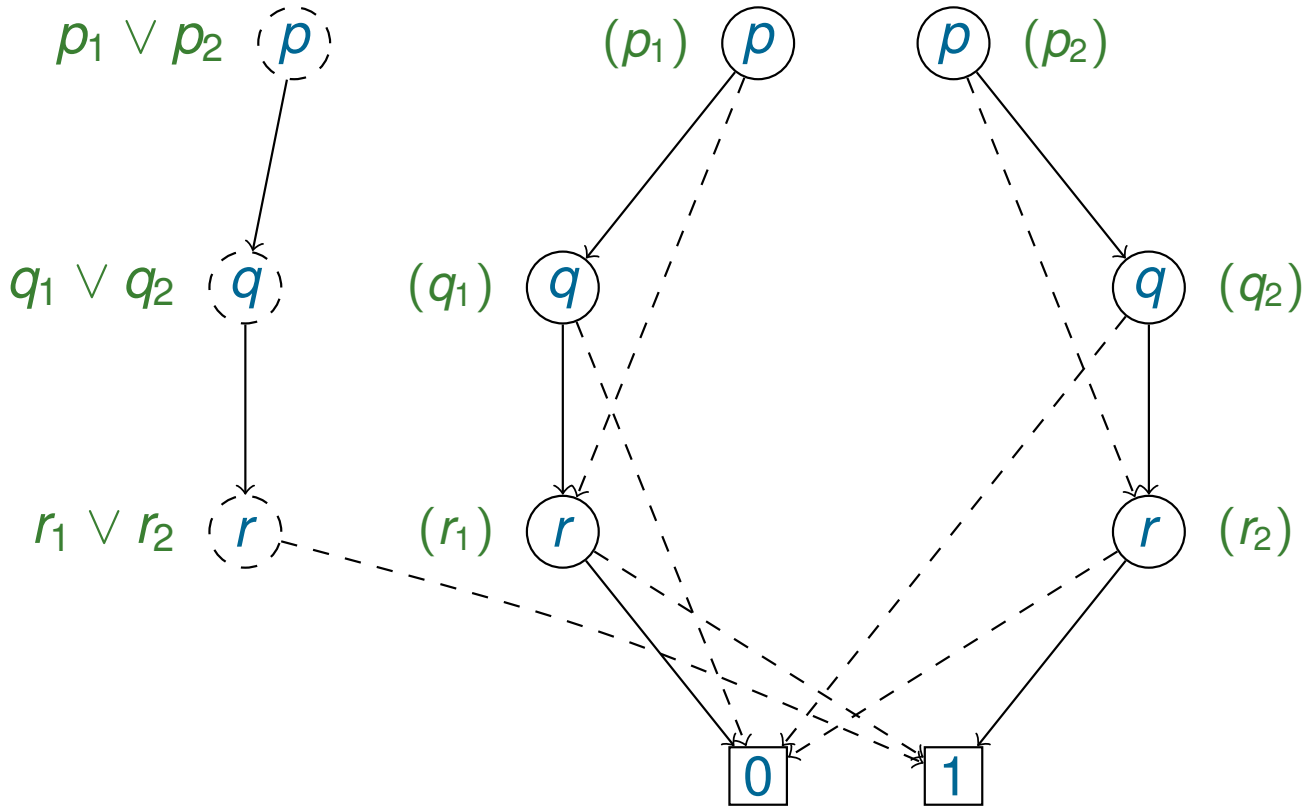
Solution

We show how the disjunction algorithm works on this OBDD.



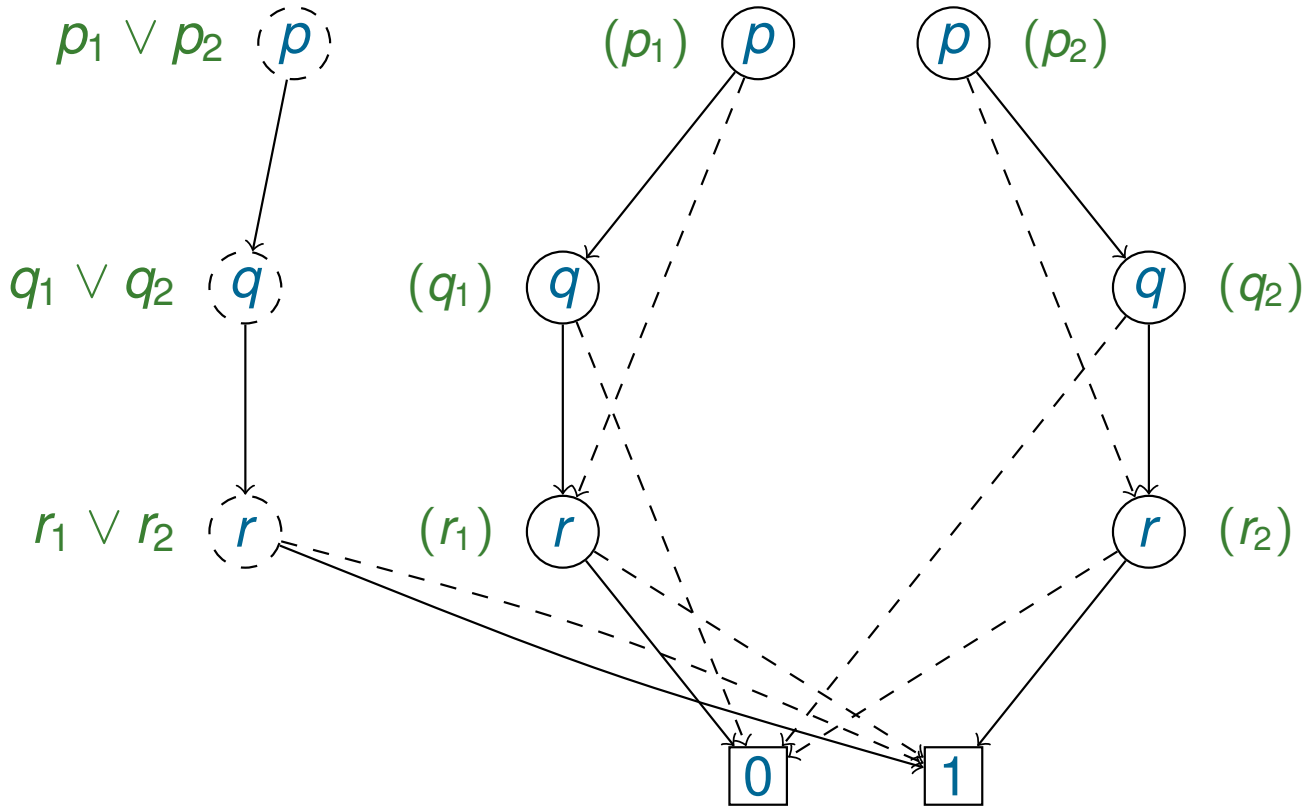
Solution

We show how the disjunction algorithm works on this OBDD.



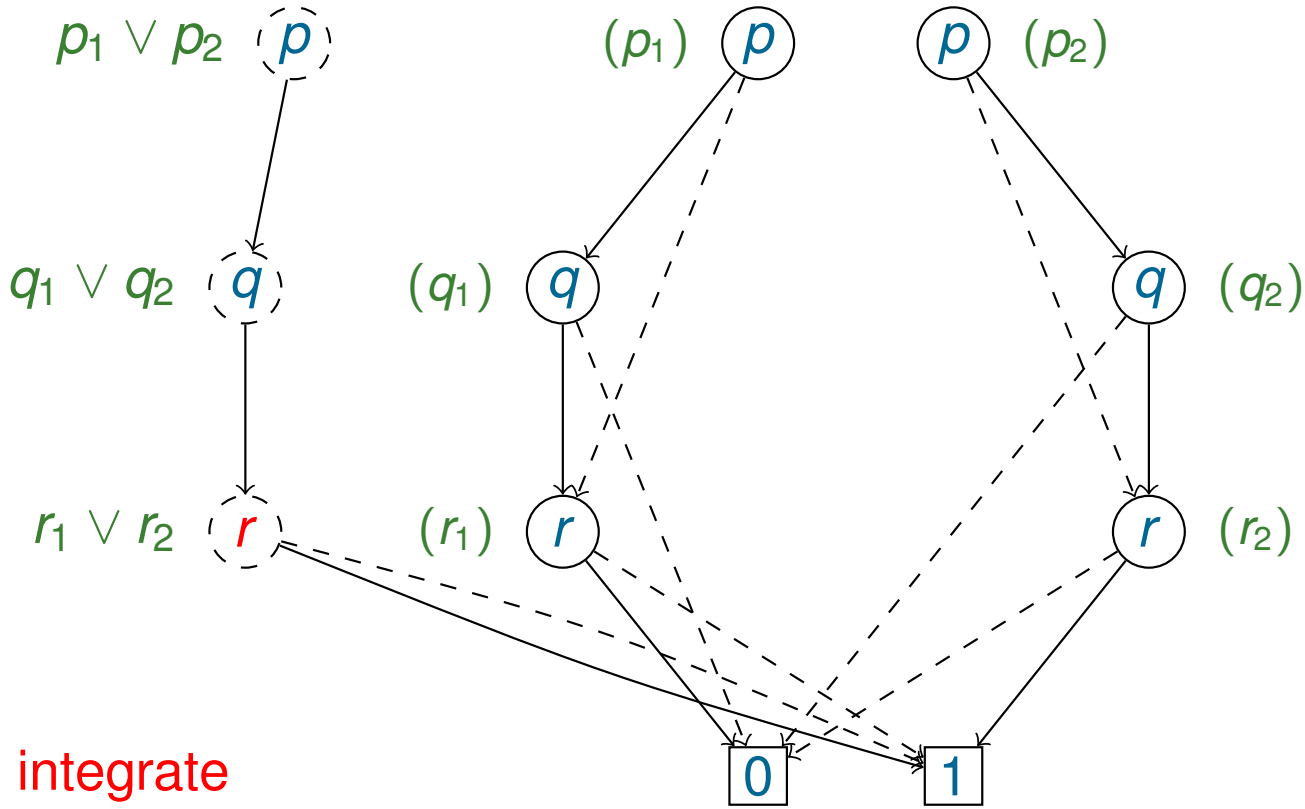
Solution

We show how the disjunction algorithm works on this OBDD.



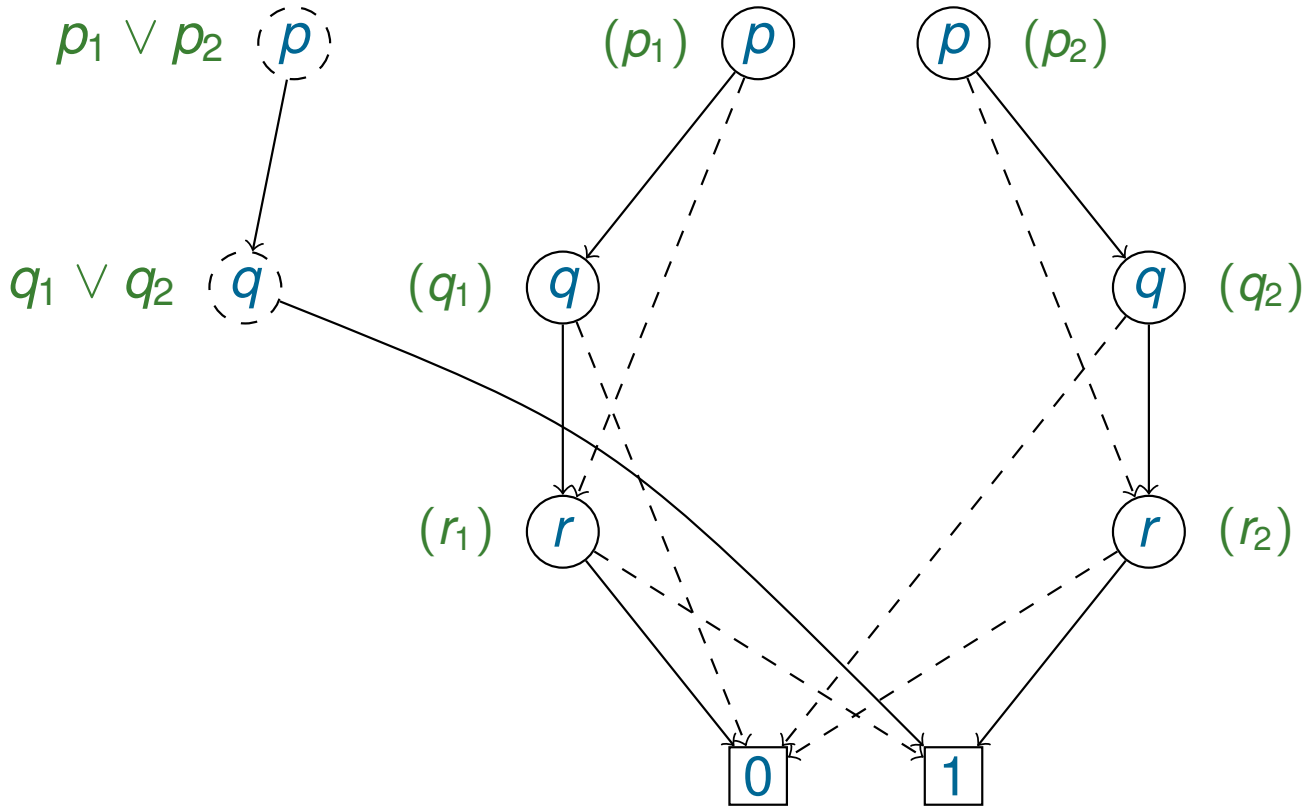
Solution

We show how the disjunction algorithm works on this OBDD.



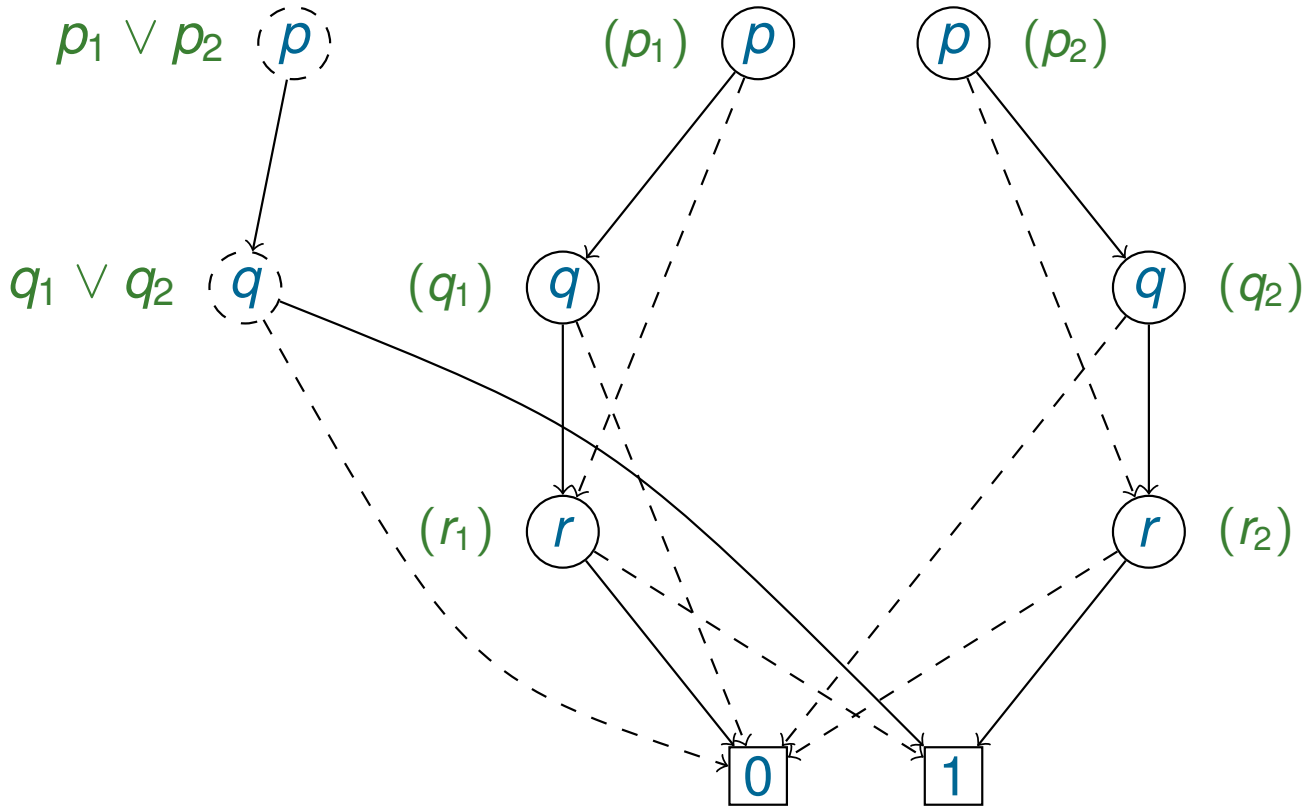
Solution

We show how the disjunction algorithm works on this OBDD.



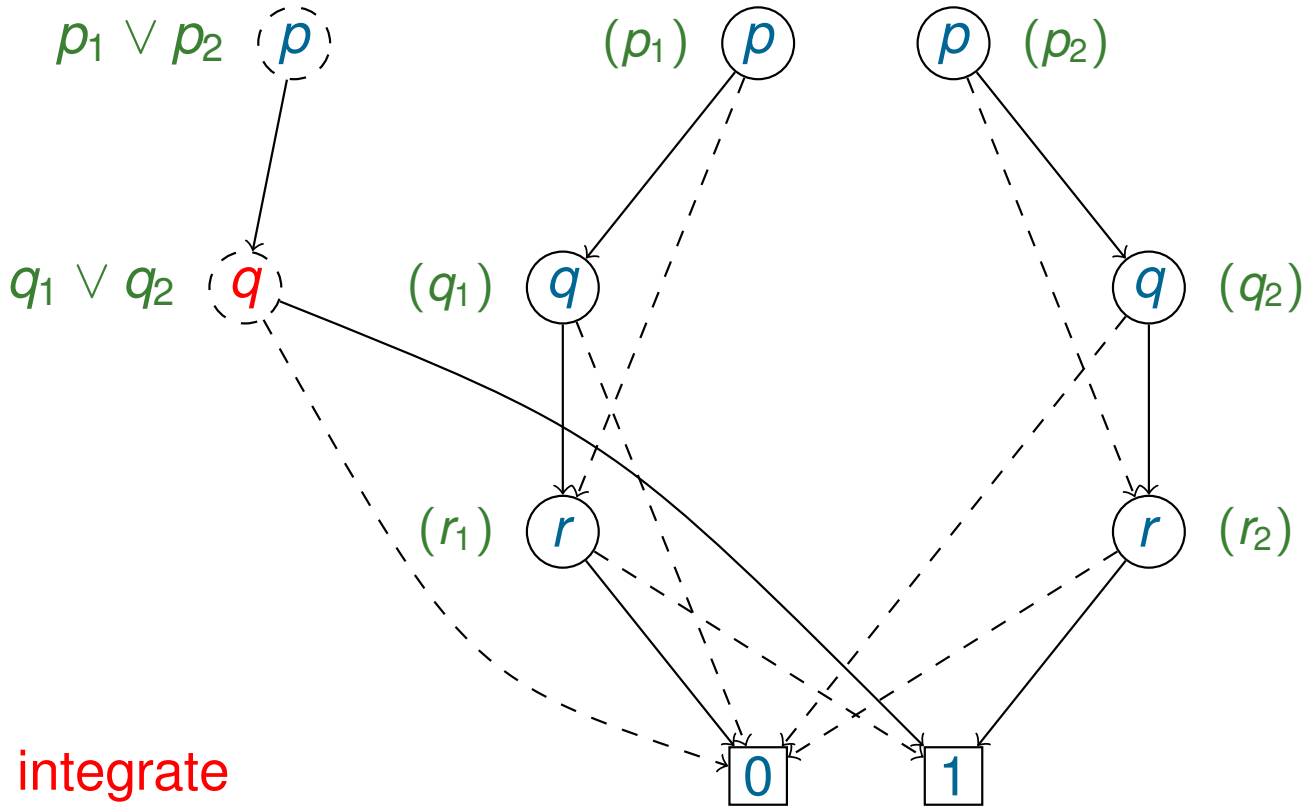
Solution

We show how the disjunction algorithm works on this OBDD.



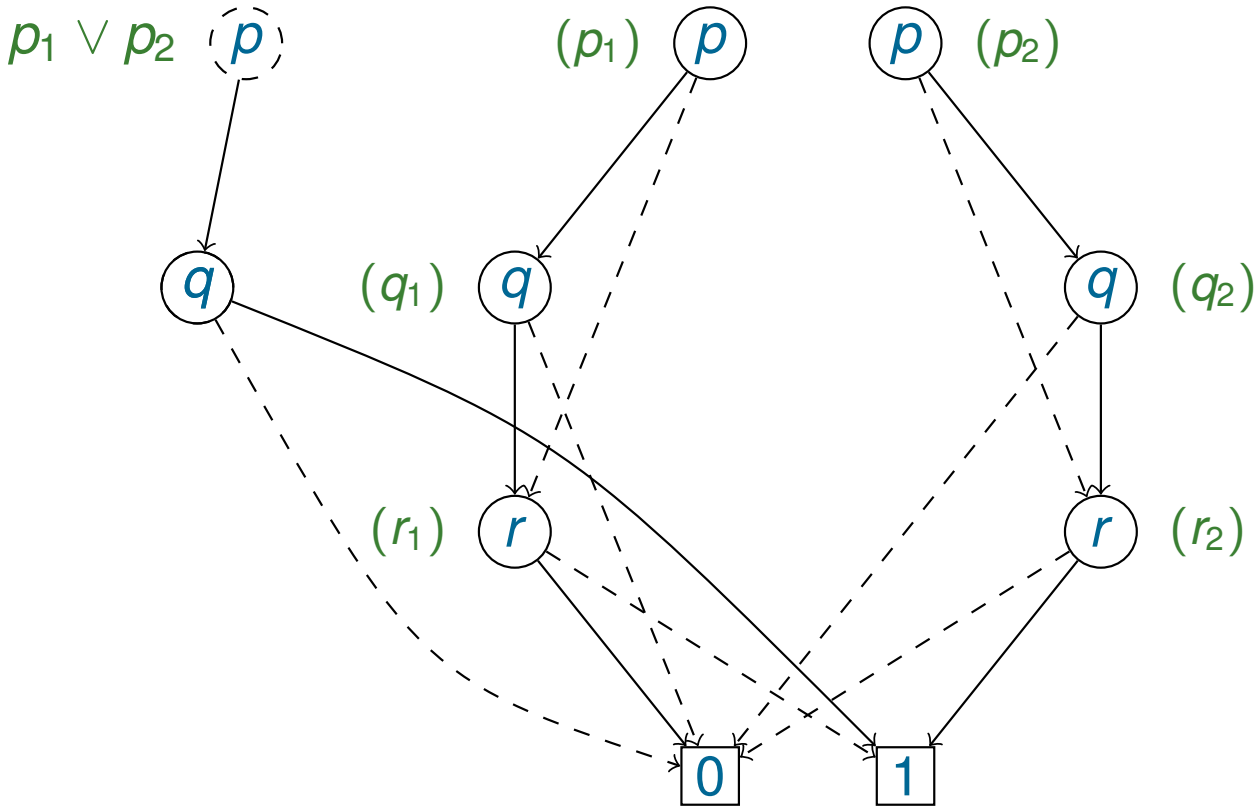
Solution

We show how the disjunction algorithm works on this OBDD.



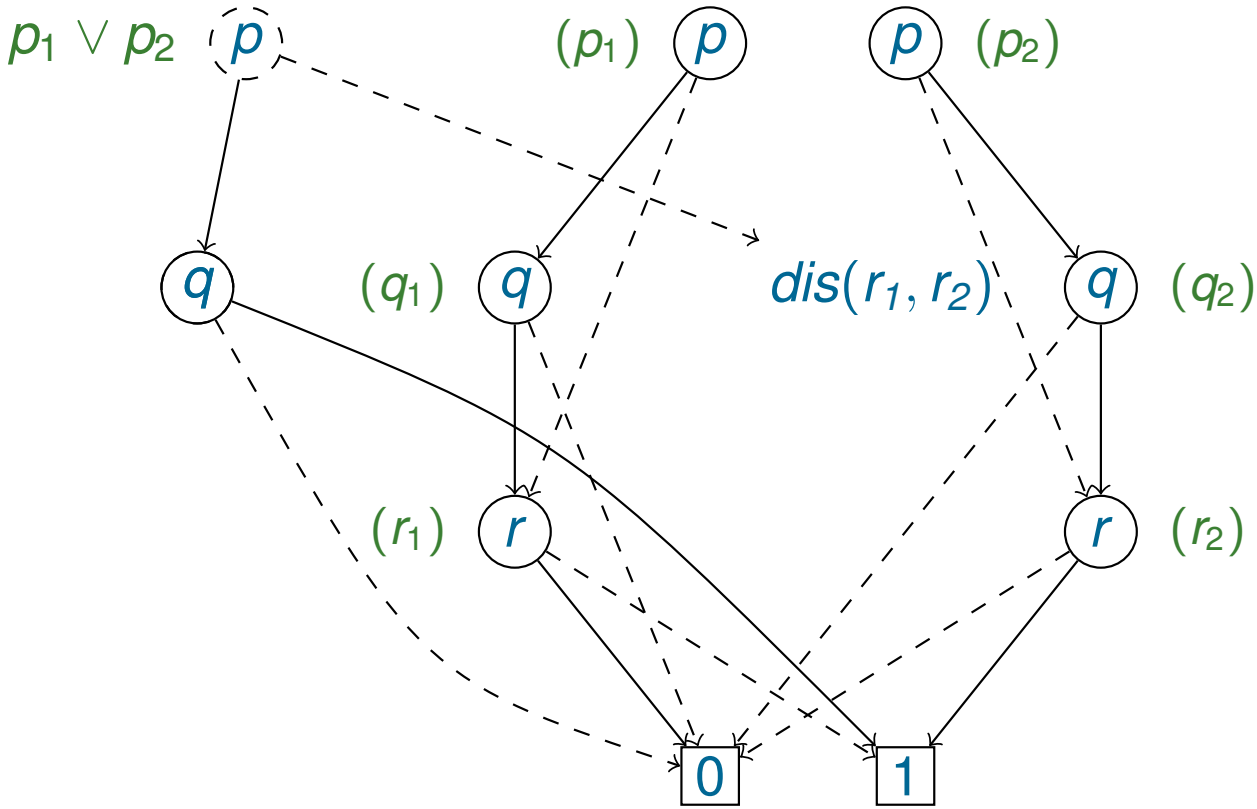
Solution

We show how the disjunction algorithm works on this OBDD.



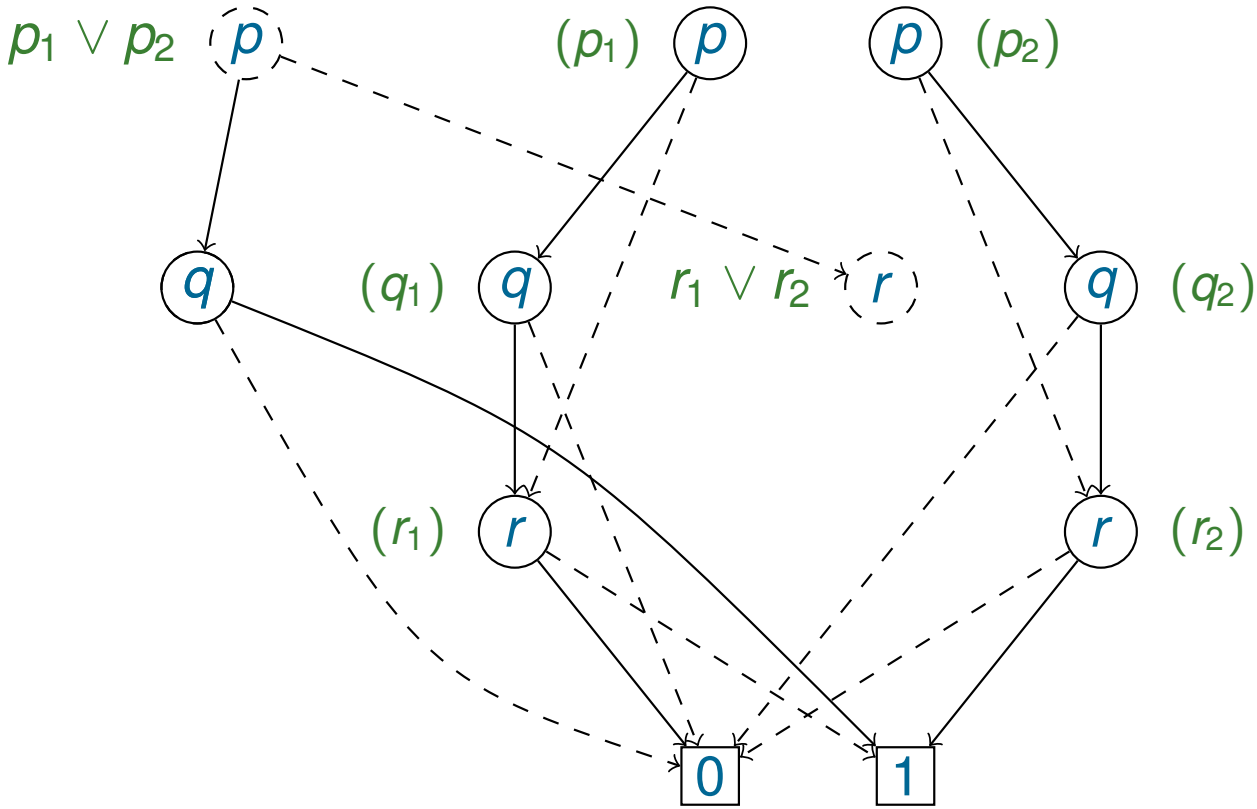
Solution

We show how the disjunction algorithm works on this OBDD.



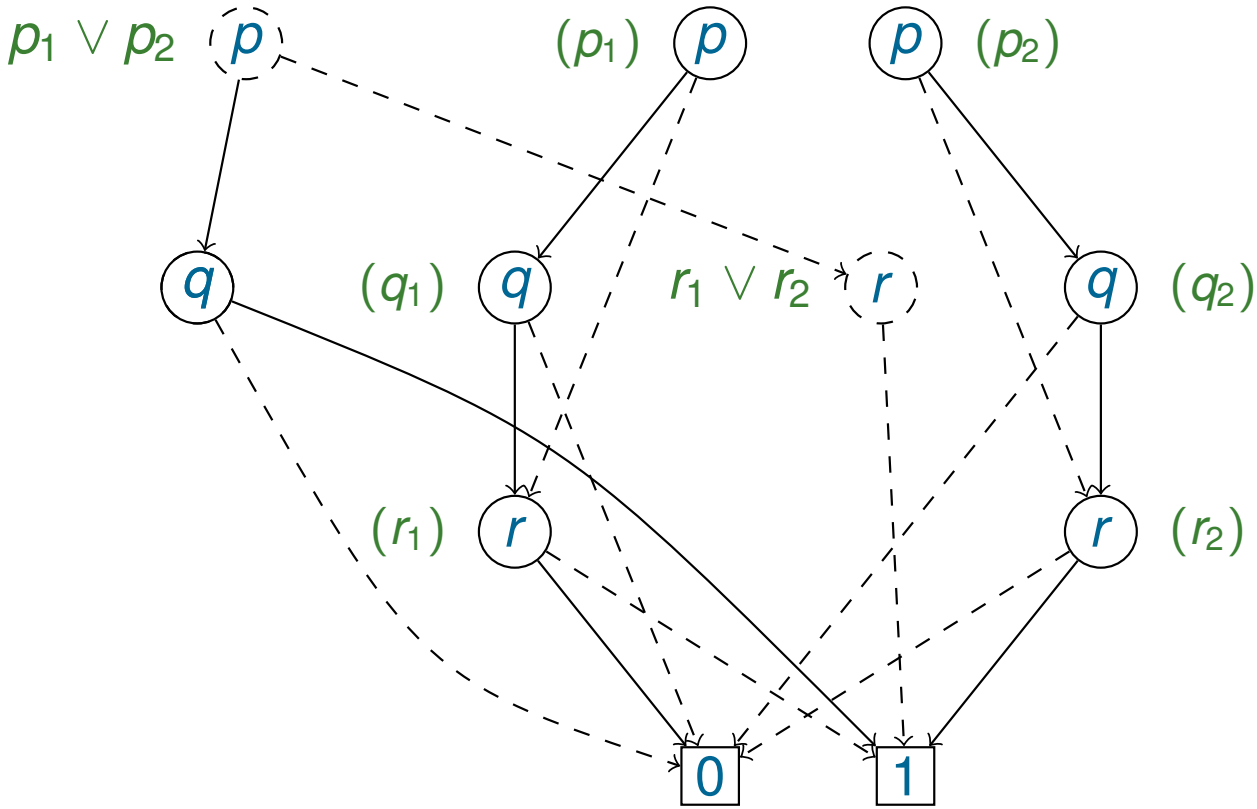
Solution

We show how the disjunction algorithm works on this OBDD.



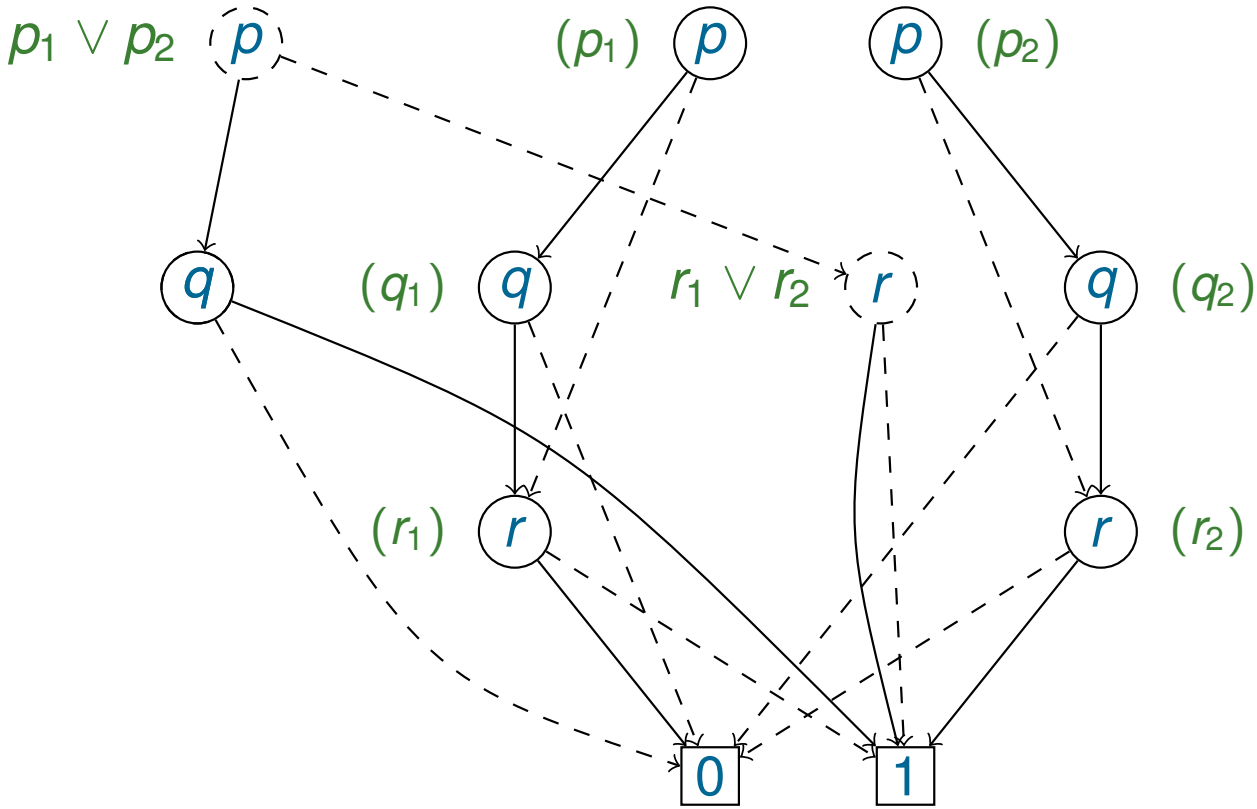
Solution

We show how the disjunction algorithm works on this OBDD.



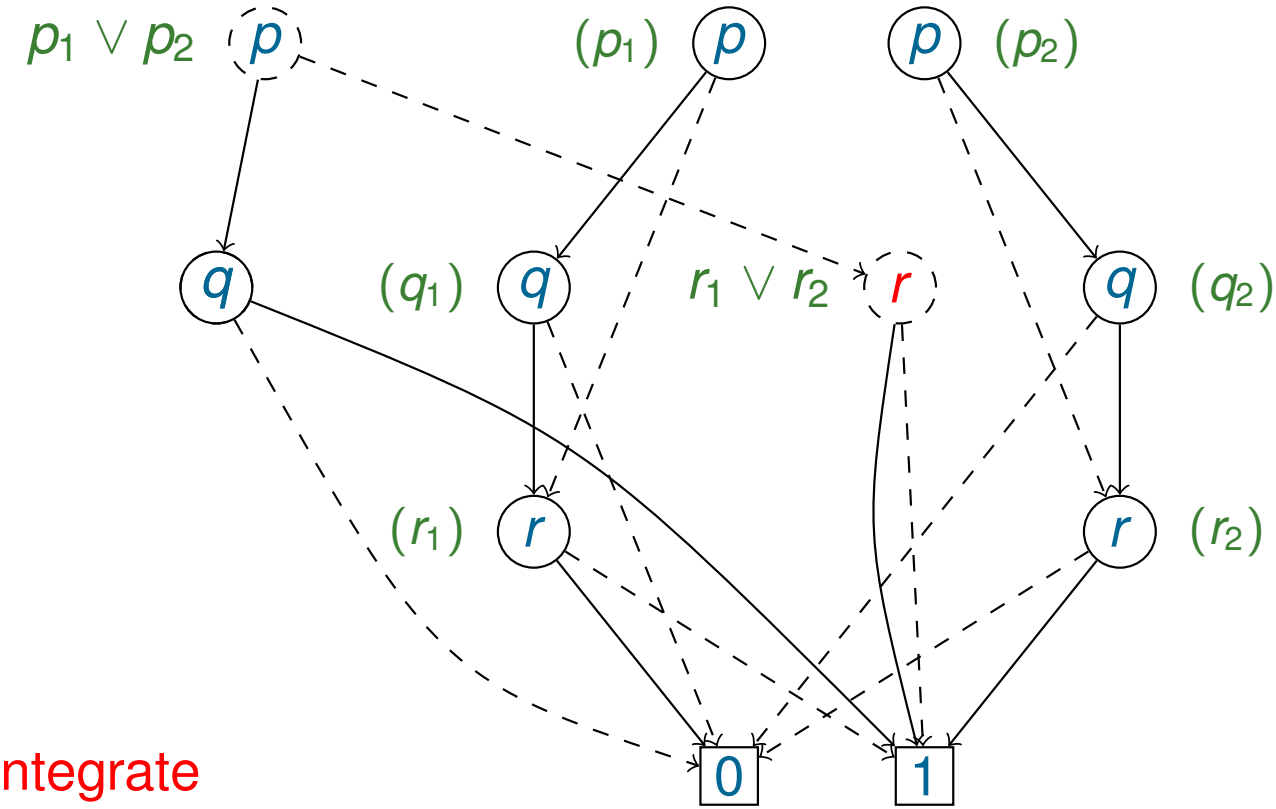
Solution

We show how the disjunction algorithm works on this OBDD.



Solution

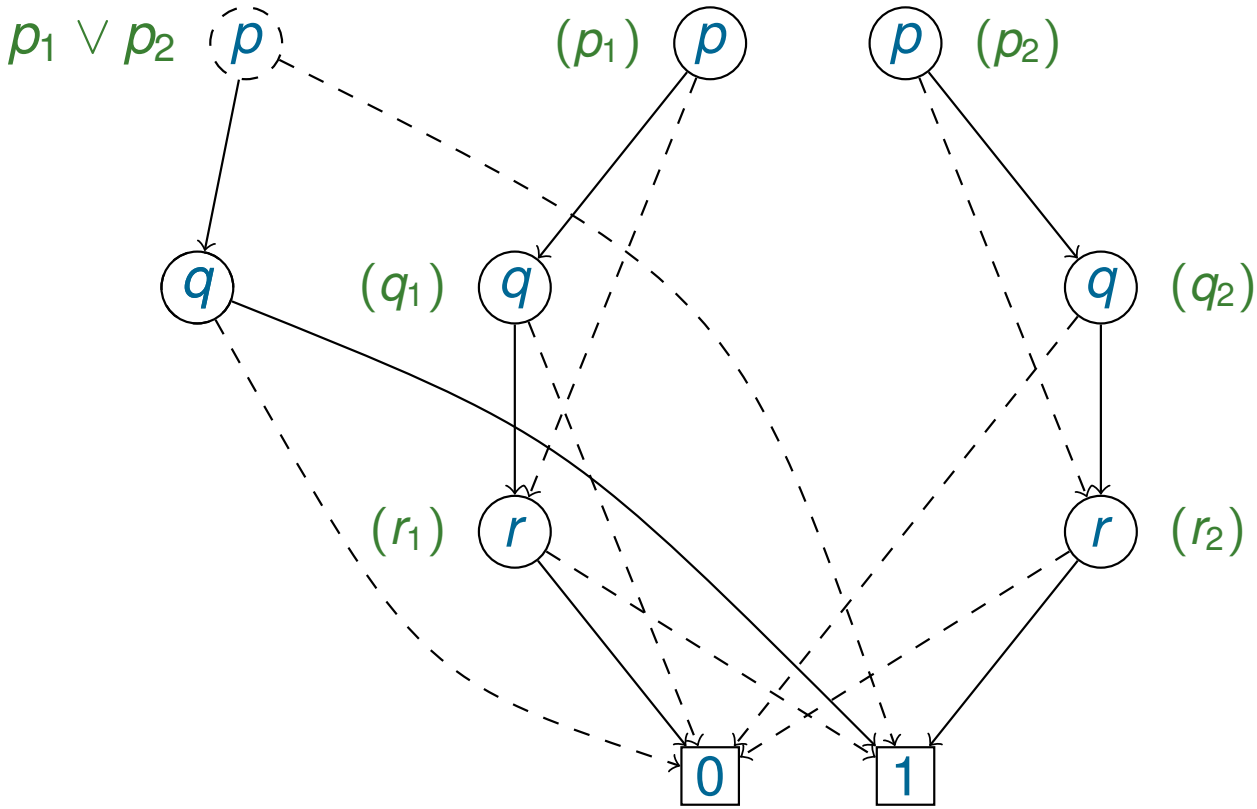
We show how the disjunction algorithm works on this OBDD.



integrate

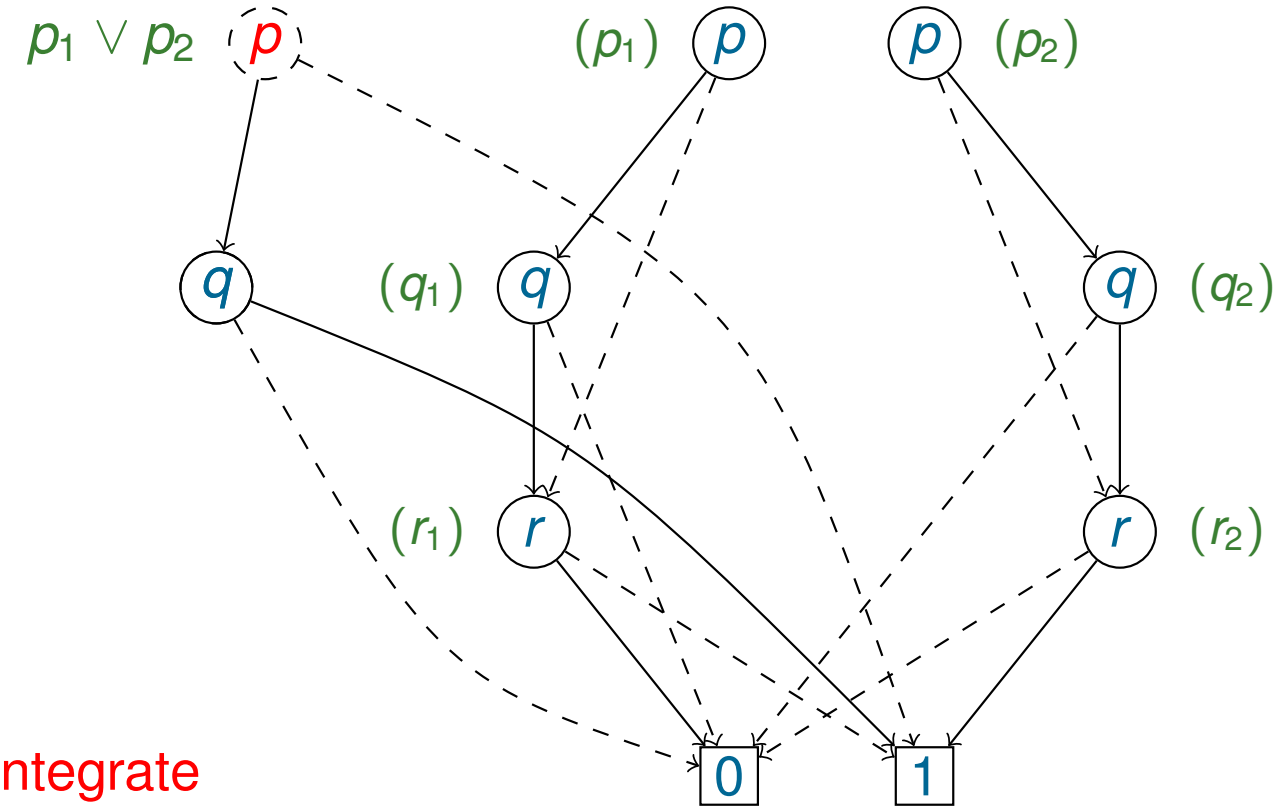
Solution

We show how the disjunction algorithm works on this OBDD.



Solution

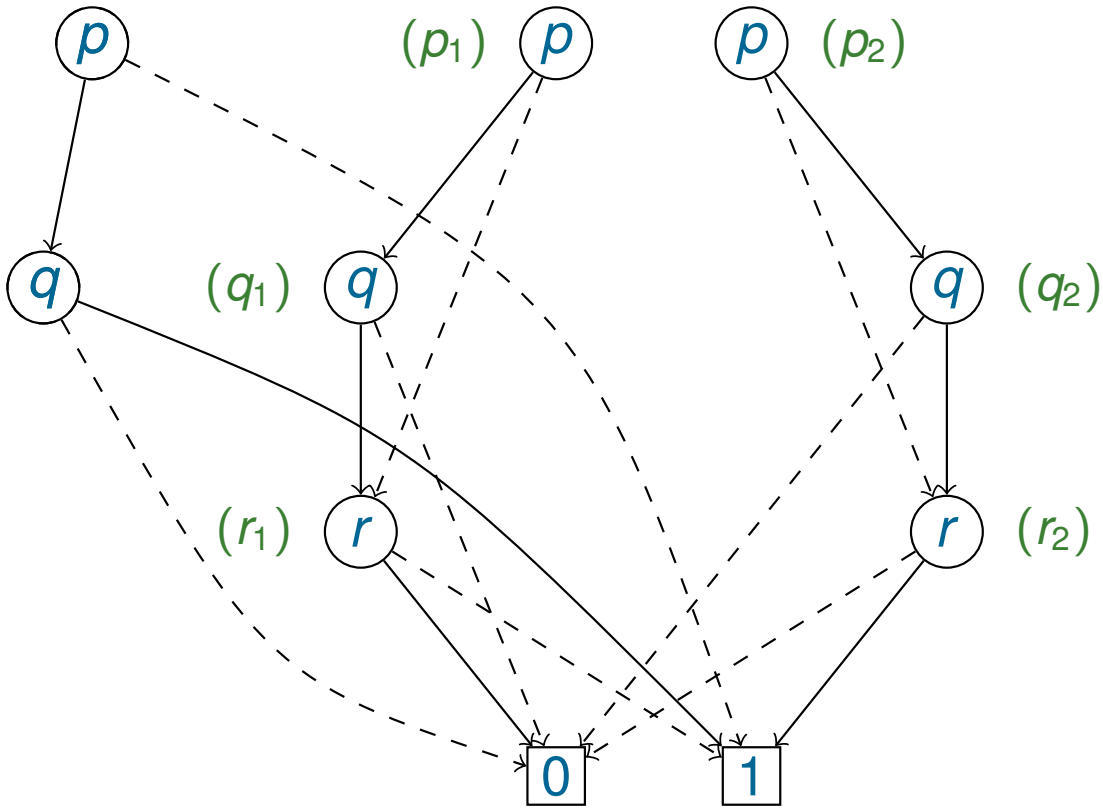
We show how the disjunction algorithm works on this OBDD.



integrate

Solution

We show how the disjunction algorithm works on this OBDD.



Exercise 6 (problem 3)

Let $n > 4$ be an integer. Draw the OBDD for the formula $p_1 \vee \neg p_2 \vee p_3 \vee \neg p_4 \vee \ldots$ and the order $p_1 > p_2 > \ldots$.

Exercise 6 (problem 3)

Let $n > 4$ be an integer. Draw the OBDD for the formula $p_1 \vee \neg p_2 \vee p_3 \vee \neg p_4 \vee \ldots$ and the order $p_1 > p_2 > \ldots$.

Solution