1. Decide whether
   - $f : AG EF p$
   - $g : EF p$

   are equivalent CTL formulae. Provide a proof.
1. Decide whether
   \[ f : AG EF p \]
   \[ g : EF p \]
   are equivalent CTL formulae. Provide a proof.

2. Is any following formula true?
   \[ f \implies g \]
   \[ g \implies f \]
1. Decide whether

\[ f : (\text{EG } q) \lor (\text{EG } p \land \text{EF } q) \]

\[ g : E(p \cup q) \]

are equivalent CTL formulae. Provide a proof.
1. Decide whether
   \[ f : (\text{EG} \ q) \lor (\text{EG} \ p \land \text{EF} \ q) \]
   \[ g : E(p \lor q) \]
   are equivalent CTL formulae. Provide a proof.

2. Is any following formula true?
   \[ f \implies g \]
   \[ g \implies f \]
OBDD EXERCISES

1. Represent the following Boolean function using OBDD:
   \[(a \land b \land \neg c) \lor ((b \land c) \land (a \lor \neg b))\]

   Use various variable orderings:
   - \(a < b < c\)
   - \(b < c < a\)
OBDD EXERCISES

1. Represent the following Boolean function using OBDD:
   \[(a \land b \land \neg c) \lor ((b \land c) \land (a \lor \neg b))\]

   Use various variable orderings:
   - \(a < b < c\)
   - \(b < c < a\)

   What is the simplest formula represented by the diagrams?

2. Using OBDD, represent \(\{4, 12\}\) as subset of \(\{0..15\}\)

   Use characteristic function:
   \[f(x) = 1 \iff x \in S\]

3. Represent subsets of \(\{0..15\}\):
   - \(\{15, 7\}\)
   - \(\{0, 4, 13, 8, 5, 12, 1, 9\}\)
   - \(\{11, 0, 3, 8, 2, 6, 1, 7\}\)
1. Represent the following Boolean function using OBDD:
   \((a \land b \land \neg c) \lor ((b \land c) \land (a \lor \neg b))\)
   Use various variable orderings:
   - \(a < b < c\)
   - \(b < c < a\)

   What is the simplest formula represented by the diagrams?

2. Using OBDD, represent \(\{4, 12\}\) as subset of \(\{0..15\}\)
   Use characteristic function: \(f(x) = 1 \iff x \in S\)
OBDD EXERCISES

1. Represent the following Boolean function using OBDD:
   \[(a \land b \land \neg c) \lor ((b \land c) \land (a \lor \neg b))\]
   Use various variable orderings:
   - \(a < b < c\)
   - \(b < c < a\)

   What is the simplest formula represented by the diagrams?

2. Using OBDD, represent \{4, 12\} as subset of \{0..15\}
   Use characteristic function: \(f(x) = 1 \iff x \in S\)

3. Represent subsets of \{0..15\}:
   - \{15, 7\}
   - \{0, 4, 13, 8, 5, 12, 1, 9\}
   - \{11, 0, 3, 8, 2, 6, 1, 7\}