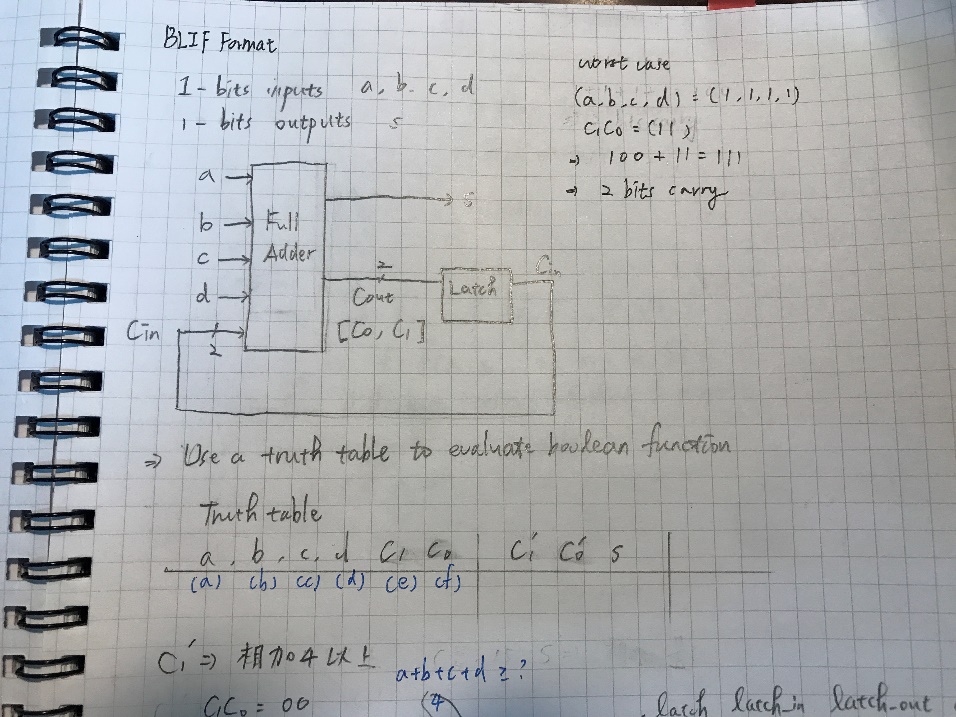
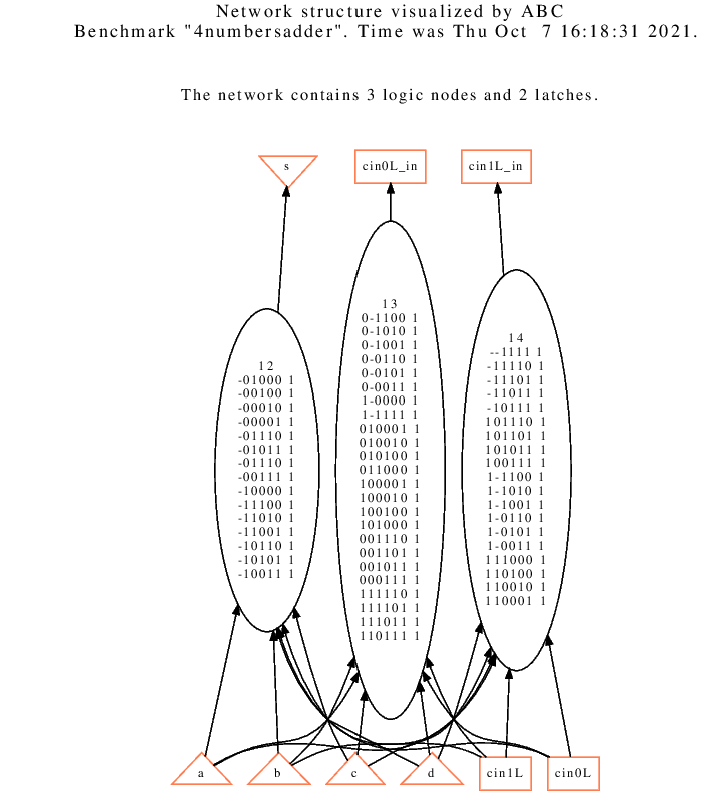
LSV PA1

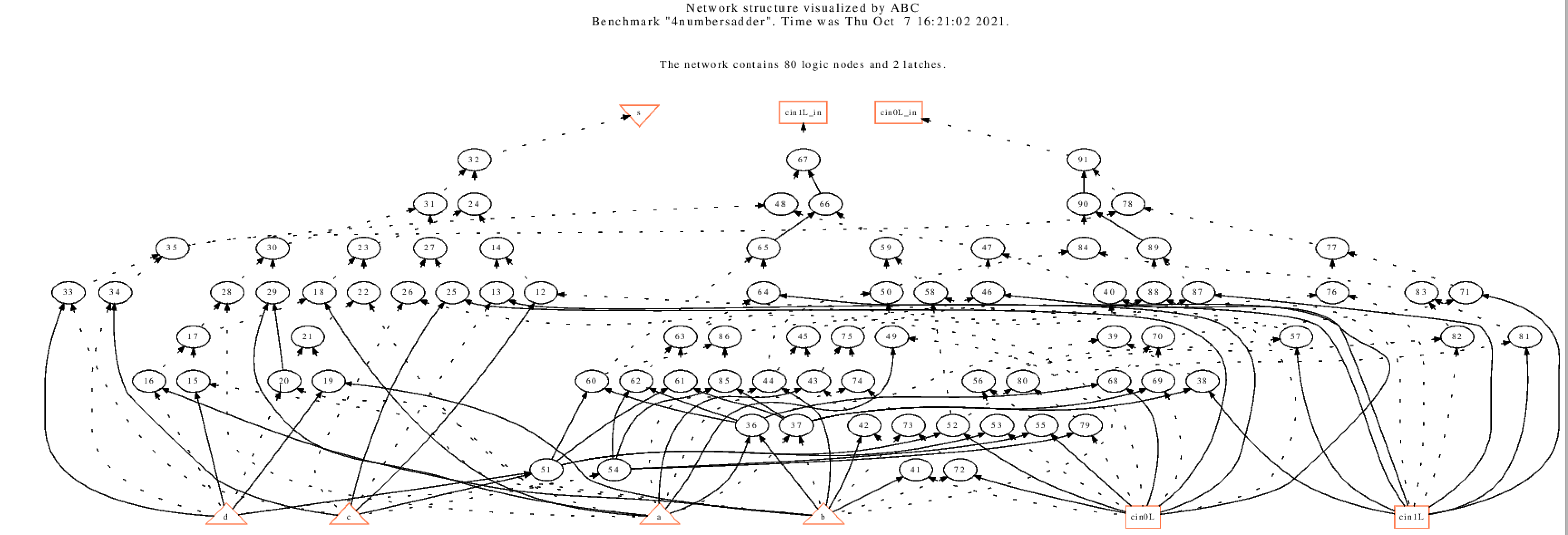
­­­B07901020 劉昀昇

**Part A**

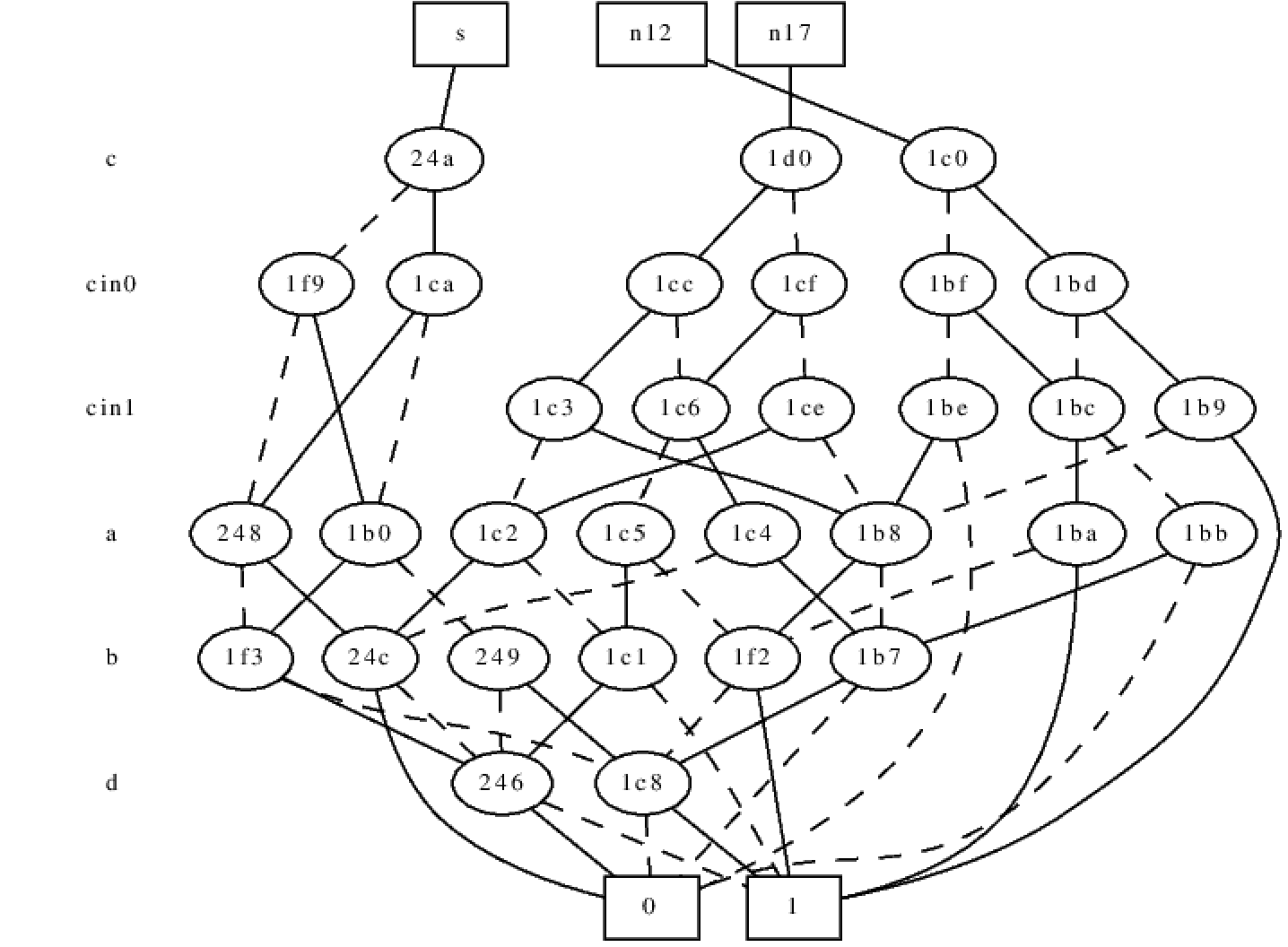
****



After strash



show\_bdd -g



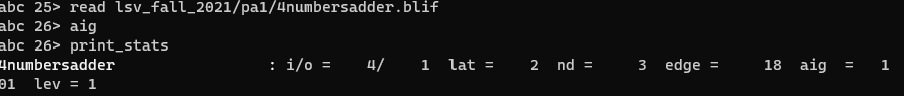
**Part B**

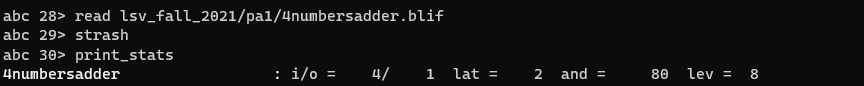
1. Compare the following differences with the four-number serial adder example.

* logic network in AIG (by command aig) vs. structurally hashed AIG (by command strash)

AIG: Converts local functions of the nodes to AIGs, relation between nodes are unchanged, node structure remains.

Strash: Convert global network to AIGs by one-level structural hashing, nodes structure is no longer maintained

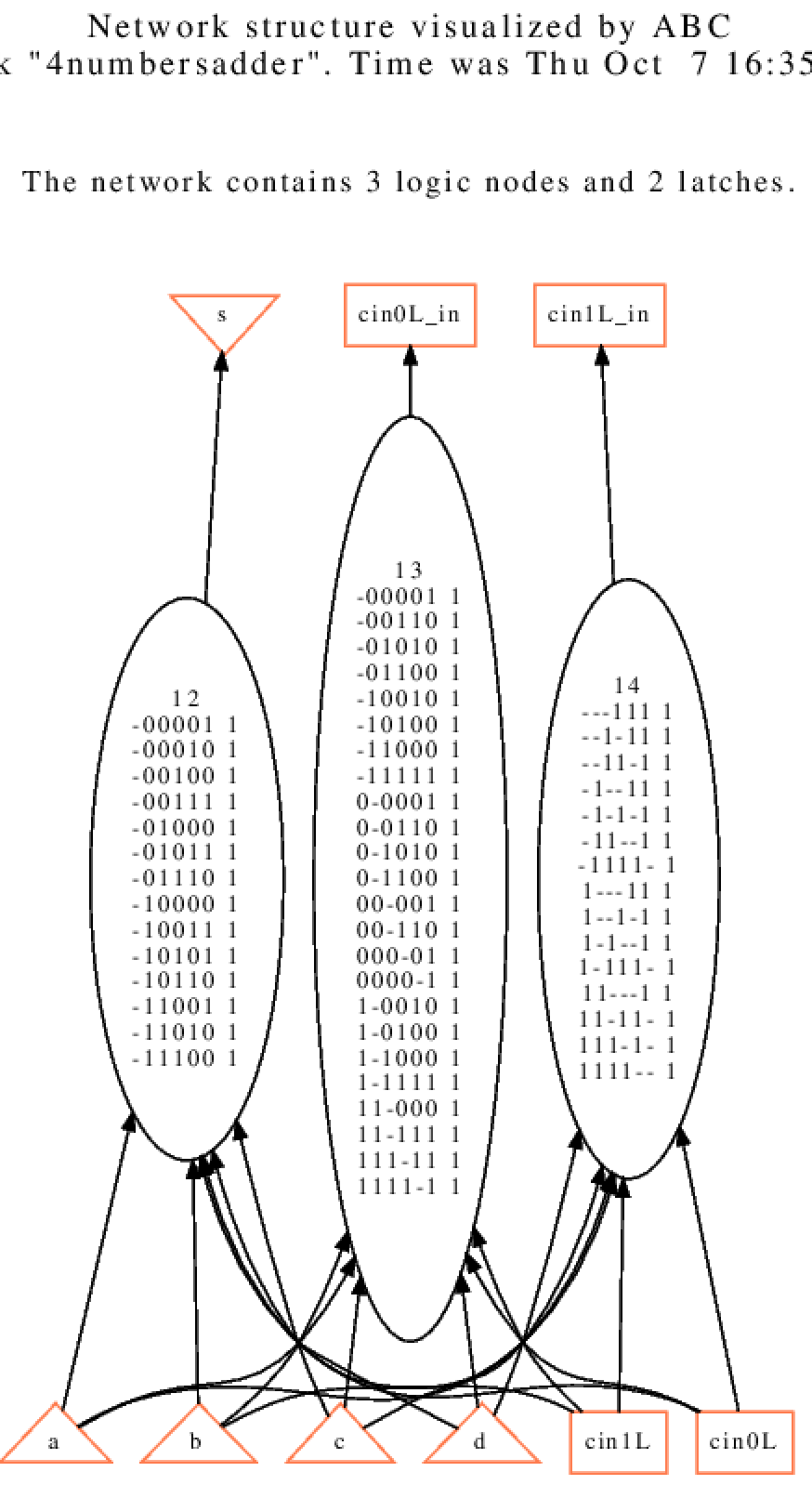
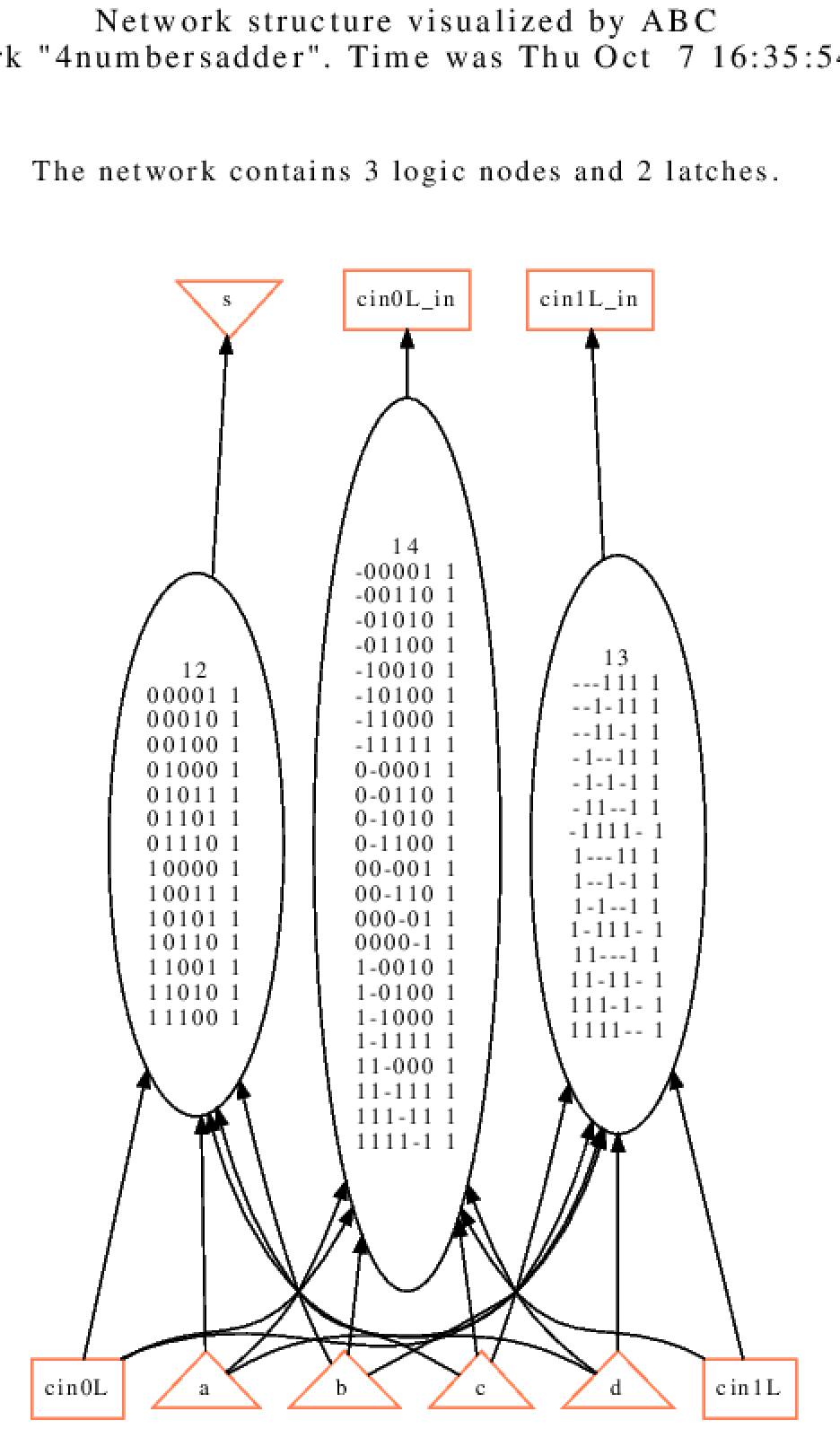




* logic network in BDD (by command bdd) vs. collapsed BDD (by command collapse)

bdd: Converts local functions of the nodes to BDDs. (nodes number remained unchanged, level unchanged)

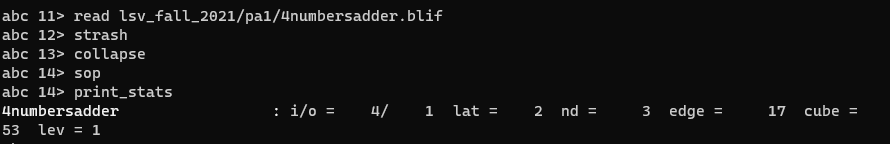
Collapse: Recursively composes the fanin nodes into the fanout nodes resulting in a network, it is built by global BDDs (level changed because each CO is composed by a node whose fanins are CIs, here because original circuit is one-level already, so differences are minor. However, some differences can be observed from command print\_stats)

Aig Collapse

1. Given a structurally hashed AIG, find a sequence of ABC command(s) to convert it to a logic network with node function expressed in sum-of-products (SOP).

BDD based SOP generation: collapse + sop



SAT based SOP generation: satclp

