**ACSL**

**American Computer Science League**

#### Contest #4

**2014 - 2015**

### Senior Division

**1. Digital Electronics** Translate the circuit

into a simplified

Boolean expression.



**3. Data Structures** Create a binary search tree from the string WALTDISNEY and another
 binary search tree for DISNEYWORLD. What is the positive difference
 between the internal path lengths of each tree?

**5. LISP Programming** Evaluate the following LISP expression:

 (REVERSE (CAR (CDR (CDR (CAR ‘((a b (c d)) (e (f g)) (h (j k))))))))

**4. Data Structures**

 Create a binary search tree from the string CINDERELLA. Then add,

 one at a time, the strings ARIEL, MULAN and BELLE to the original

 tree. Which one increases the depth of the tree by the most?

**2. Digital Electronics** Which ordered

 triples make the circuit
 TRUE?

