**ACSL**

**American Computer Science League**

#### Contest #4

**2014 - 2015**

### Intermediate Division Solutions

1. 

1**. Digital Electronics**  
 The circuit translates as follows:

**5.** **Data Structures**

Queue: SUN

Stack: SUNSHI

IHSNUSNE

Queue: IHSNUSNESTATE

SNUSNESTATE

Stack: SNUSNESTA

ATSENSU



4. **Data Structures**

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

(CDR (CAR (CDR ‘(b (c d) (e f g))))) = (CDR (CAR ‘((c d) (e f g)))) = (CDR ‘(c d)) = ‘(d)

5. U

4. 7

3**. LISP**  
 The circuit translates as follows:



2. **Digital Electronics**  
 The circuit translates as follows:



3. ‘(d)

2. (1,1,1)