**ACSL**

**American Computer Science League**

#### Contest #4

**2014 - 2015**

### Senior Division Solutions

**1. Digital Electronics**

1. 1

 = 

=  = 

= = 

= 

= 

Therefore all triples will make it TRUE.

Internal path length = 2\*1 + 2\*2

+ 2\*3 + 3\*4 + 1\*5 = 29



Internal path length = 2\*1 + 1\*2 +

2\*3 + 2\*4 + 2\*5 = 28

2. (0, 0, 1)

**2. Digital Electronics**

 =  = 

=  =  = 

=  = 

Therefore (0, 0, 1) makes it TRUE.

**3. Data Structures**

WALTDISNEY DISNEYWORLD



3. 1

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5. ‘(d c)

**5. LISP**

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

= (REVERSE (CAR (CDR (CDR ‘(a b (c d))))))

= (REVERSE (CAR (CDR ‘(b (c d)))))

= (REVERSE (CAR ‘((c d))))

= (REVERSE ‘(c d))

= ‘(d c)

CINDERELLABELLE

DEPTH = 6



CINDERELLAMULAN

DEPTH = 5



4. BELLE

CINDERELLAARIEL

DEPTH = 5



CINDERELLA

DEPTH = 4



**4. Data Structure**