**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**