**29th Annual** High School Programming Contest April 1, 2016

###### Problem #1:  Cinco de Mayo Treats

Test Data (four runs)

For Input of 1 the Output should be 1

For Input of 75 the Output should be 112

For Input of 76 the Output should be 114

For Input of 1000000 the Output should be 1499999

###### Problem #2:  Triangular Years

Test Data (five runs)

For Input of 1 the Output should be 1

For Input of 235391 the Output should be 0

For Input of 235390 the Output should be 755

For Input of 555561111 the Output should be 33333

For Input of 1000000000 the Output should be 0

###### Problem #3:  Too abundant, too deficient, or just perfect!

Test Data (one run)

Input

1

1000000

Output

1

1000000

4

247545

752451

###### Problem #4:  Multiplicative Digital Roots

Test Data (one run)

Input

20000000

30000000

Output

20000000

30000000

9 26888999

0 9561835

1 0

2 52424

3 0

4 4088

5 0

6 249074

7 0

8 132580

9 0

###### Problem #5:  The 6561 Problem

Test Data (five runs)

For Input of 130 the Output should be 9

For Input of 12408 the Output should be 1

For Input of 1024 the Output should be 0

For Input of 45 the Output should be 26

For Input of 1 the Output should be 26