

# AMERICAN COMPUTER SCIENCE LEAGUE

2019-2020

Contest #1

## Junior Division - Number Transformation

**PROBLEM:** Given a positive integer (call it  $N$ ), a position in that integer (call it  $P$ ), and a transition integer (call it  $D$ ). Transform  $N$  as follows:

- If the  $P^{\text{th}}$  digit of  $N$  from the right is from 0 to 4, add  $D$  to it. Replace the  $P^{\text{th}}$  digit by the units digit of the sum. Then, replace all digits to the right of the  $P^{\text{th}}$  digit by 0.
- If the  $P^{\text{th}}$  digit of  $N$  from the right is from 5 to 9, subtract  $D$  from it. Replace the  $P^{\text{th}}$  digit by the leftmost digit of the absolute value of the difference. Then, replace all digits to the right of the  $P^{\text{th}}$  digit by 0.

**Example 1:**  $N = 7145032$ ,  $P = 2$ ,  $D = 8$ . The 2<sup>nd</sup> digit from the right is 3; add 8 to it ( $3+8=11$ ), and replace the 3 with 1 to get 7145012. Replace the digits to the right by 0s to get 7145010.

**Example 2:**  $N = 1540670$ ,  $P = 3$ ,  $D = 54$ . The 3<sup>rd</sup> digit from the right is 6; the absolute value of  $6-54$  is 48; replace with the 4 to get 1540470. Replace the digits to the right with 0s to get 1540400.

**INPUT:** There will be 5 sets of data. Each set contains 3 positive integers:  $N$ ,  $P$ , and  $D$ .  $N$  will be less than  $10^{15}$ ;  $P$  and  $D$  will be valid inputs. No input will cause an output to have a leading digit of 0.

**OUTPUT:** Print the transformed number. The printed number may not have any spaces between the digits.

**SAMPLE INPUT:** ( <http://www.datafiles.acsl.org/2020/contest1/jr-sample-input.txt> )

```
124987 2 3
540670 3 9
7145042 2 8
124987 2 523
4386709 1 2
```

**SAMPLE OUTPUT:**

1. 124950
2. 540300
3. 7145020
4. 124950
5. 4386707

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### TEST DATA

#### TEST INPUT:

4318762 4 3

72431685 1 7

123456789 7 8

9876543210 10 25

314159265358 8 428

#### TEST OUTPUT:

1. 4315000

2. 72431682

3. 121000000

4. 1000000000

5. 314140000000