N = 17

14
X % 17 = 14

15
X % 17 = 15

15 x 10

10 x 10

10
X % 17 = 10

1 x 10

15 x 10 + 1

10 x 10 + 1

1
X % 17 = 1

16
X % 17 = 16

$100 \times 10^5 + 10101$

$1001 \times 10^5 + 10101$

$$(100 \times 10^5 + 10101) \% N = (100 \% N \times 10^5 \% N + 10101 \% N) \% N$$

$$(1001 \times 10^5 + 10101) \% N = (1001 \% N \times 10^5 \% N + 10101 \% N) \% N$$