Suppose you have a strip of toilet paper with n pieces, and you fold the paper evenly into d parts (divide by d) or fold the last k pieces in (subtract by k), until the length of the strip is less than k pieces.

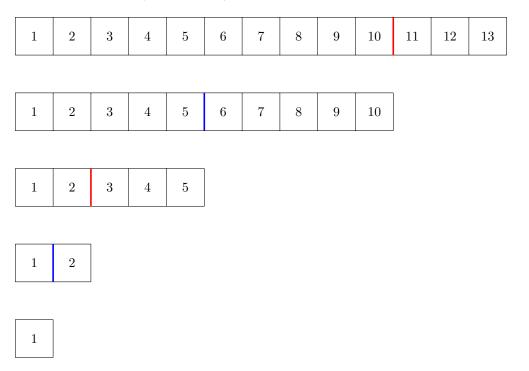


Figure 1: A folding of paper where n = 13, d = 2, and k = 3, showing that  $a_{2,3}(13) \le 4$ . Where the red marks a subtraction by k and the blue marks a division by d.

**Question.** Is there an efficient way to compute  $a_{d,k}(n)$ ?

## Related.

- 1. What if you must keep folding until you cannot fold any longer?
- 2. What is the minimum number of terminal pieces? What is the minimum number of steps to this number?