Problem 5. Card Flipping [20 points]

You have in front of you an array of n face-up cards, where each card shows an integer. (These numbers shown may be represented as an array $A[1..n]$.) You first flip over the rightmost (n^{th}) card. You then flip $n-1$ more cards, each time flipping either the leftmost unflipped card or the rightmost unflipped card (your choice). If you flip a card showing x after just having flipped a card showing y, you receive a reward of $|x-y|$. 不是同一個位置，之前誤以為是同一個位置

Describe an algorithm that computes the best order in which to flip the cards, in order to maximize your total reward. Give and justify a running-time analysis for your solution.