

Assume you have a necklace of stones. Some of the stones have positive value and some have negative value. You have the opportunity to snip the necklace in two places (creating two bands) and weld the endpoints of one of the two bands back into a necklace. You would like your new necklace to be as valuable as possible. You can assume the necklace has n stones with values $v[0], v[1], \dots, v[n - 1]$.

- (1) Give an efficient algorithm to find the value of the new necklace. If all of the stones have negative value your answer should be 0. Make your algorithm as clean and elegant as possible.
- (2) Give an efficient algorithm to determine where you should snip the original necklace (not just its value). Make your algorithm as clean and elegant as possible. If all of the values are positive you should not snip and your algorithm should print:

Do not snip.

If all of the values are negative you should not snip and your algorithm should print:

Throw the necklace away.

If possible the algorithm should determine these two situations without explicitly checking for them.