

Design an algorithm and write a program to generate the derivative (D) of a given time series (S).

$$D(i) = S(i+1) - S(i)$$

For example:

Input (S): 2, 5, 7, 3, 6, -1 (-1 is the sentinel)

Output (D): 3, 2, -4, 3

Application:

Cola Machine Assessment