Online on Pointers

Section: B1+B2   Time: 50 minutes

Problem: Repeat Elements in an Array

Write a C program that takes an array of integers and a **pair of integers (i, b)**. The program should do the following:

1. If b > 0, repeat the element at position i exactly b times forward, shifting the subsequent elements to the right to accommodate the new values.
2. If b = 0, delete the element at position i and shift the subsequent elements to the left to fill the gap.
3. If b < 0, repeat the element at position i exactly b times backward, shifting the preceding elements to the left (with rotation) to accommodate the new values.

Please see the sample I/O for reference.

Use **pointer arithmetic** and **dynamic memory allocation** to perform the task. Avoid using array indexing. You may assume that the pairs are provided in ascending order of their positions and are always within the bound.

Sample I/O:

Input	Output
Array size: 5 Elements: 1 2 3 4 5 Pair: 2 3	1 2 3 3 3 4 5
Array size: 4 Elements: 10 20 30 40 Pair: 0 0	20 30 40
Array size: 4 Elements: 10 20 30 40 Pair: 2 -3	30 30 30 40 10 20