**Rule Mean Term**

✨ Problem Statement

Suppose you are given with an array of 0 and 1 of length n A[n], and config pattern P. You are to form a RMT array of length n R[n] such that Ri = decimal of (A[i-1] A[i] A[i+1]).

How to compute A[i-1] if i = 0 ? just take A[i-1] = 0 if P = 0 **or** take A[i-1] = A[n-1] if P = 1.

Similarly how to compute A[i+1] if i = n-1? just take A[i+1] = 0 if P = 0 **or** take A[i+1] = A[0] if P = 1

**Illustration - 1**

Suppose n = 4, P = 1 and A[] = 0 0 1 1

So R[0] = Decimal of (A[0-1] A[0] A[0+1]) = Decimal of (A[3]A[0]A[1]) = Decimal of (100) = 4

R[1] = Decimal of (A[1-1] A[1] A[1+1]) = Decimal of (A[0]A[1]A[2]) = Decimal of (001) = 1

R[2] = Decimal of (A[2-1] A[2] A[2+1]) = Decimal of (A[1]A[2]A[3]) = Decimal of (011) = 3

R[3] = Decimal of (A[3-1] A[3] A[3+1]) = Decimal of (A[2]A[3]A[0]) = Decimal of (110) = 6

Hence R[] = 4 1 3 6

**Illustration - 2**

Suppose n = 4, P = 0 and A[] = 0 0 1 1

So R[0] = Decimal of (A[0-1] A[0] A[0+1]) = Decimal of (0A[0]A[1]) = Decimal of (000) = 0

R[1] = Decimal of (A[1-1] A[1] A[1+1]) = Decimal of (A[0]A[1]A[2]) = Decimal of (001) = 1

R[2] = Decimal of (A[2-1] A[2] A[2+1]) = Decimal of (A[1]A[2]A[3]) = Decimal of (011) = 3

R[3] = Decimal of (A[3-1] A[3] A[3+1]) = Decimal of (A[2]A[3]0) = Decimal of (110) = 6

Hence R[] = 0 1 3 6

✨ Extra Info

Not as such

✨ Input Format

First line will have n and P space separated and second line will have N number of space separated 0 or 1s representing A[n]

✨ Output Format

n space separated Integers representing R[n]

✨ Constraints

n <= 100, P = {0,1} and A[] will have only 0 or 1

✨ Time Limit2 secs. Each test case should pass in 2 secs.

✨ Sample Input

6 1   
1 0 1 0 1 0

✨ Sample Output

2 5 2 5 2 5

✨ Real Testcases

| **No.** | **IP** | **OP** |
| --- | --- | --- |
| 1 | 6 1  1 0 1 0 1 0 | 2 5 2 5 2 5 |
| 2 | 12 0  0 0 1 1 0 0 1 1 0 0 1 1 | 0 1 3 6 4 1 3 6 4 1 3 6 |
| 3 | 4 1  1 1 1 1 | 7 7 7 7 |
| 4 | 5 0  1 0 1 1 1 | 2 5 3 7 6 |