



Java Loops II ★

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Problem

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We use the integers a , b , and n to create the following series:

$$(a + 2^0 \cdot b), (a + 2^0 \cdot b + 2^1 \cdot b), \dots, (a + 2^0 \cdot b + 2^1 \cdot b + \dots + 2^{n-1} \cdot b)$$

You are given q queries in the form of a , b , and n . For each query, print the series corresponding to the given a , b , and n values as a single line of n space-separated integers.

Input Format

The first line contains an integer, q , denoting the number of queries.

Each line i of the q subsequent lines contains three space-separated integers describing the respective a_i , b_i , and n_i values for that query.

Constraints

- $0 \leq q \leq 500$
- $0 \leq a, b \leq 50$
- $1 \leq n \leq 15$

Output Format

For each query, print the corresponding series on a new line. Each series must be printed in order as a single line of n space-separated integers.

Sample Input

```
2
0 2 10
5 3 5
```

Sample Output

```
2 6 14 30 62 126 254 510 1022 2046
8 14 26 50 98
```

Explanation

We have two queries:

1. We use $a = 0$, $b = 2$, and $n = 10$ to produce some series s_0, s_1, \dots, s_{n-1} :

- $s_0 = 0 + 1 \cdot 2 = 2$
- $s_1 = 0 + 1 \cdot 2 + 2 \cdot 2 = 6$
- $s_2 = 0 + 1 \cdot 2 + 2 \cdot 2 + 4 \cdot 2 = 14$

... and so on.

Once we hit $n = 10$, we print the first ten terms as a single line of space-separated integers.

2. We use $a = 5$, $b = 3$, and $n = 5$ to produce some series s_0, s_1, \dots, s_{n-1} :

- $s_0 = 5 + 1 \cdot 3 = 8$
- $s_1 = 5 + 1 \cdot 3 + 2 \cdot 3 = 14$
- $s_2 = 5 + 1 \cdot 3 + 2 \cdot 3 + 4 \cdot 3 = 26$
- $s_3 = 5 + 1 \cdot 3 + 2 \cdot 3 + 4 \cdot 3 + 8 \cdot 3 = 50$
- $s_4 = 5 + 1 \cdot 3 + 2 \cdot 3 + 4 \cdot 3 + 8 \cdot 3 + 16 \cdot 3 = 98$

We then print each element of our series as a single line of space-separated values.

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Java 7



```

1  import java.util.*;
2  import java.io.*;
3
4  class Solution{
5      public static void main(String []argh){
6          Scanner in = new Scanner(System.in);
7          int t=in.nextInt();
8          for(int i=0;i<t;i++){
9              int a = in.nextInt();
10             int b = in.nextInt();
11             int n = in.nextInt();
12             int sum = a;
13             for (int j = 0; j<n; j++) {
14                 int nextEle = (int)Math.pow(2, j)*b;
15                 sum = sum + nextEle;
16                 System.out.printf("%s ",sum);
17             }
18             if (i < t-1) {
19                 System.out.print("\n");
20             }
21
22         }
23         in.close();
24
25     }
26 }
27

```

Line: 27 Col: 1

 Upload Code as File

☐ Test against custom input

Run Code

Submit Code

You have earned 10.00 points!
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27%58/80



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Next Challenge

✔ Test case 0

Compiler Message

✔ Test case 1

Success

✔ Test case 2 

Input (stdin)

Download

✔ Test case 3 

0 2 10

✔ Test case 4 

5 3 5

Expected Output

Download

1 2 6 14 30 62 126 254 510 1022 2046

2 8 14 26 50 98