

8056 Data Security

An Internet security company is facing a problem regarding encryption of the data to be transferred. One of the employee of the company suggested that the encryption can be performed by generating positive integers in a given range. So, he suggested that in a range of 33 to 70 the numbers can be generated by taking 33 as starting integer performing the calculations as follows $33+3+3=39$, and then $39+3+9=51$, and then $51+5+1=57$ and then $57+5+7=69$. Thus, the sequence becomes 33, 39, 51, 57, 69.

Another employee pointed out that there can be numbers that can be generated using two different numbers such as 101 can be achieved using 91 ($91+9+1$) and 100 ($100+1+0+0$) which will make decryption difficult.

He then suggested using numbers that cannot be generated by the above methodology. As an example he gave following numbers in the range from 1 till 50:

1, 3, 5, 7, 9, 20, 31, 42

Your task, should you choose to accept, will be to automate the generation of these numbers.

Input

The first line contains the number of test cases. The subsequent lines contain $x \leq 10000$.

Output

For each test case print 'Case #N: ' where N is the test case number. Then display generated numbers from 1 till x in increasing order, separated by spaces.

Sample Input

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2
50
100
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Sample Output

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Case #1: 1 3 5 7 9 20 31 42
Case #2: 1 3 5 7 9 20 31 42 53 64 75 86 97
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