Coin Change

You are given so many coins. Your task is to change the coins in such a manner that the total value of the coins remains the same and the number of coins be as less as possible.

There are exactly 26 different coins available denoted by uppercase English letters. And the value of A=1, B=2, C=3, ….., Z=26. [value of **X**'th coin= 1+ value of **X-1**'th coin. where **X** can be B to Z]

Input:

First line of input contains **T**(<=105) denotes the number of test case.
Each case contains an string **S** containing uppercase English letters only.

1<=|**S**|<=10000 (|**S**| denotes the length of string **S**).

Output:

Print exactly one line of output for each case. This line should contain the required string **P** which is the required coin change of **S**.

if there are multiple possible answers , print the lexicographically smallest one.

Sample Input	Sample Output
3 AAA WAAA ZZZ	C Z ZZZ