**Code test – 1**

**Print Nth number for two digits**

Two digits d1 and d2 will be passed as input. The program must print the Nth number in the number system that consists only digits with d1 and d2.

**Input Format**:  
The first line contains d1  
The second line contains d2  
The third line contains N

**Boundary Conditions:**  
0 <= d1 <=9  
0 <= d2 <=9  
d1 is not equal to d2

**Output Format:**  
The value of the number as per the given conditions.

**Example Input/Output 1:**

Input:  
3  
4  
2

Output:  
43

Explanation:  
The numbers which contains only 3 and 4 are like 34, 43, 334, 343, 344, 434, ....  
The second number in this series is 43 and hence it is printed as output.

**Example Input/Output 2:**

Input:  
5  
0  
4

Output:  
550

Explanation:  
The numbers which contains only 0 and 5 are 50 500 505 550 ...  
The 4th number in this series is 550 and hence it is printed as output.

**Example Input/Output 3:**

Input:  
6  
9  
15

Output:  
6999

Explanation:  
The numbers which contains only 6 and 9 are 69 96 669 696 699 966 969 996 6669 6696 6699 6966 6969 6996 6999 ....  
The 15th number in this series is 6999 and hence it is printed as output.

Code test 2

**Sub-string index**

Two string values (S1, S2) are passed as input. Find if the second string S2 is a sub-string of the first string S1. If it is, print the index of the first occurrence. Else print -1.

**Input Format:**  
The first line will contain value of the string S1.  
The second line will contain value of the string S2.

**Boundary Conditions:**  
Length of the input strings S1 and S2 will be from 2 to 200.

**Output Format:**  
The index of the occurrence of S2 based on the given conditions.

**Example Input/Output 1:**  
Input:  
make123India  
123

Output:  
4

**Example Input/Output 2:**  
Input:  
microphone  
xyz

Output:  
-1

Code Test 3

**Reverse words in a string**

A string value is passed as input. Reverse the words in the string and print them as the output.

**Input Format:**  
The first line will contain value of the string S.

**Boundary Conditions:**  
Length of the input string will be from 5 to 200.

**Output Format:**  
The words in the string in the reversed order.

**Example Input/Output 1:**  
Input:  
first second third

Output:  
third second first

**Example Input/Output 2:**  
Input:  
I went to Chennai

Output:  
Chennai to went I

**Code Test 4**

**Merge Sorted Arrays**

Given two sorted arrays (of numbers), merge them into a single array such that the numbers are not repeated.

**Input Format:**  
The first line will contain first sorted array with the numbers separated by a space.  
The second line will contain second sorted array with the numbers separated by a space.

**Boundary Conditions:**  
Length of the input string will be from 3 to 200 for both the arrays.

**Output Format:**  
The numbers separated by a single space in the merged sorted array.

**Example Input/Output 1:**  
Input:  
2 4 5 6 7 9 10 13  
2 3 4 5 6 7 8 9 11 15

Output:  
2 3 4 5 6 7 8 9 10 11 13 15

**Example Input/Output 2:**  
Input:  
22 33 54 66 89 1002  
15 22 31 66 1002 20034

Output:  
15 22 31 33 54 66 89 1002 20034

**Code Test 5**

**Alternate Sorting of Numbers**

Given an array of integers, rearrange the array in such a way that the first element is first maximum and second element is first minimum. The third element must be second maximum and fourth element must be second minimum and so on.

**Input Format:**  
The first line will contain the numbers separated by a space.

**Boundary Conditions:**  
Length of the input string will be from 3 to 200.

**Output Format:**  
The numbers separated by a single space as per the mentioned conditions.

**Example Input/Output 1:**  
Input:  
2 3 4 7

Output:  
7 2 4 3

**Example Input/Output 2:**  
Input:  
1 2 3 4 5 6 7

Output:  
7 1 6 2 5 3 4

**Example Input/Output 3:**  
Input:  
23 55

Output:  
55 23

**Example Input/Output 4:**  
Input:  
54 54 54 54

Output:  
54 54 54 54