*Recursion – 3*

1. **Return Subsequences**

**Send Feedback**

Given a string (lets say of length n), return all the subsequences of the given string.

**Subsequences contain all the strings of length varying from 0 to n. But the order of characters should remain same as in the input string.**

**Note : The order of subsequences are not important.**

**Sample Input:**

abc

**Sample Output:**

"" (the double quotes just signifies an empty string, don't worry about the quotes)

c

b

bc

a

ac

ab

abc

1. **Return Keypad**

**Send Feedback**

Given an integer n, using phone keypad find out all the possible strings that can be made using digits of input n.

**Note : The order of strings are not important.**

**Input Format :**

Integer n

**Output Format :**

All possible strings in different lines

**Constraints :**

1 <= n <= 10^6

**Sample Input:**

23

**Sample Output:**

ad

ae

af

bd

be

bf

cd

ce

cf

1. **Print Subsequences**

**Send Feedback**

Given a string (lets say of length n), print all the subsequences of the given string.

**Subsequences contain all the strings of length varying from 0 to n. But the order of characters should remain same as in the input string.**

**Note : The order of subsequences are not important. Print every subsequence in new line.**

**Sample Input:**

abc

**Sample Output:**

"" (the double quotes just signifies an empty string, don't worry about the quotes)

c

b

bc

a

ac

ab

abc

1. **Print Keypad**

**Send Feedback**

Given an integer n, using phone keypad find out and print all the possible strings that can be made using digits of input n.

**Note : The order of strings are not important. Just print different strings in new lines.**

**Input Format :**

Integer n

**Output Format :**

All possible strings in different lines

**Constraints :**

1 <= n <= 10^6

**Sample Input:**

23

**Sample Output:**

ad

ae

af

bd

be

bf

cd

ce

cf

*Assignment*

1. **Return subsets sum to K**

**Send Feedback**

Given an array A of size n and an integer K, return all subsets of A which sum to K.

**Subsets are of length varying from 0 to n, that contain elements of the array. But the order of elements should remain same as in the input array.**

**Note : The order of subsets are not important.**

**Input format :**

Line 1 : Integer n, Size of input array

Line 2 : Array elements separated by space

Line 3 : K

**Constraints :**

1 <= n <= 20

**Sample Input :**

9

5 12 3 17 1 18 15 3 17

6

**Sample Output :**

3 3

5 1

1. **Return subset of an array**

**Send Feedback**

Given an integer array (of length n), find and return all the subsets of input array.

**Subsets are of length varying from 0 to n, that contain elements of the array. But the order of elements should remain same as in the input array.**

**Note : The order of subsets are not important.**

Input format :

Line 1 : Size of array

Line 2 : Array elements (separated by space)

**Sample Input:**

3

15 20 12

**Sample Output:**

[] (this just represents an empty array, don't worry about the square brackets)

12

20

20 12

15

15 12

15 20

15 20 12

1. **Return Permutations of a String**

**Send Feedback**

Given a string, find and return all the possible permutations of the input string.

**Note : The order of permutations are not important.**

**Sample Input :**

abc

**Sample Output :**

abc

acb

bac

bca

cab

cba

1. **Print Subsets of Array**

**Send Feedback**

Given an integer array (of length n), find and print all the subsets of input array.

**Subsets are of length varying from 0 to n, that contain elements of the array. But the order of elements should remain same as in the input array.**

**Note : The order of subsets are not important. Just print the subsets in different lines.**

**Input format :**

Line 1 : Integer n, Size of array

Line 2 : Array elements (separated by space)

**Constraints :**

1 <= n <= 15

**Sample Input:**

3

15 20 12

**Sample Output:**

[] (this just represents an empty array, don't worry about the square brackets)

12

20

20 12

15

15 12

15 20

15 20 12

1. **Print Subset Sum to K**

**Send Feedback**

Given an array A and an integer K, print all subsets of A which sum to K.

**Subsets are of length varying from 0 to n, that contain elements of the array. But the order of elements should remain same as in the input array.**

**Note : The order of subsets are not important. Just print them in different lines.**

**Input format :**

Line 1 : Size of input array

Line 2 : Array elements separated by space

Line 3 : K

**Sample Input:**

9

5 12 3 17 1 18 15 3 17

6

**Sample Output:**

3 3

5 1

1. **Print Permutations of a String**

**Send Feedback**

Given a string, find and print all the possible permutations of the input string.

**Note : The order of permutations are not important. Just print them in different lines.**

**Sample Input :**

abc

**Sample Output :**

abc

acb

bac

bca

cab

cba