**Letter Combinations of a Phone Number**

**Given a digit string, return all possible letter combinations that the number could represent. A mapping of digit to letters (just like on the telephone buttons) is given below.**

***Code:***

class Solution **{**

public List**<**String**>** letterCombinations**(**String digits**)** **{**

LinkedList**<**String**>** queue **=** **new** LinkedList**<>();**

**if(**digits**.**length**()** **==** 0**)**

**return** queue**;**

String mapping**[]** **=** **{**"0"**,**"1"**,**"abc"**,**"def"**,**"ghi"**,**"jkl"**,**"mno"**,**"pqrs"**,**"tuv"**,**"wxyz"**};//Used to map**

queue**.**add**(**""**);**

**for(**int i **=**0**;**i**<**digits**.**length**();**i**++){**

int map **=** Character**.**getNumericValue**(**digits**.**charAt**(**i**));**

**while(**queue**.**peek**().**length**()==**i**){**

String element **=** queue**.**remove**();**

**for(**char w**:**mapping**[**map**].**toCharArray**()){**

queue**.**add**(**element **+** w**);**

**}**

**}**

**}**

**return** queue**;**

**}**

**}**



* **Use queue for taking the elements of the same level.**