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Experiment- 3.2

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Branch: BE CSE Section/Group: NTPP_605-B

Semester: 6th Subject Code: 20CSP-351

Subject Name: CC Lab

Question : Binary Watch Problem1:

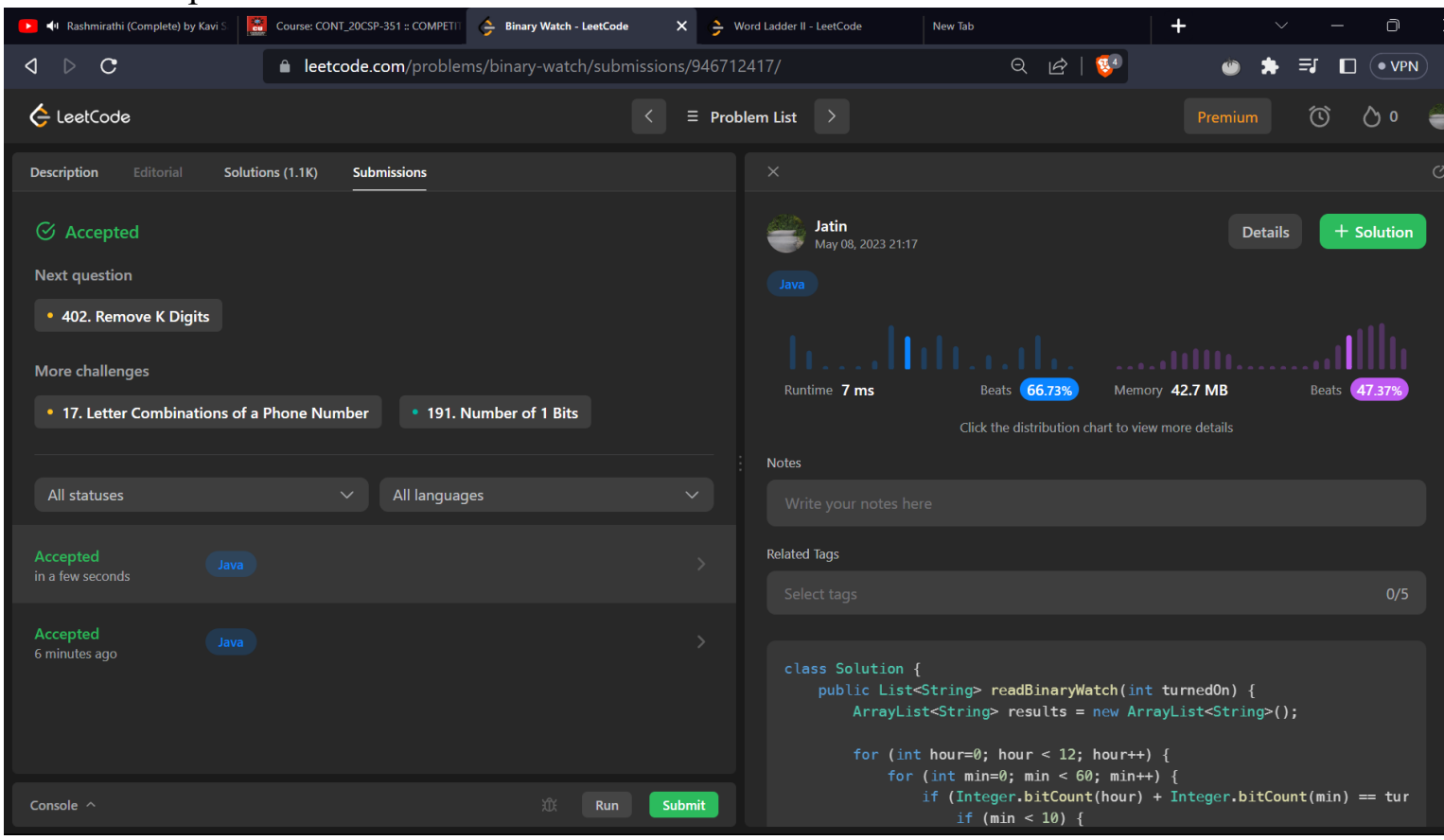
. Code:

```
class Solution {
    public List<String> readBinaryWatch(int turnedOn) {
        ArrayList<String> results = new ArrayList<String>();

        for (int hour=0; hour < 12; hour++) {
            for (int min=0; min < 60; min++) {
                if (Integer.bitCount(hour) + Integer.bitCount(min) == turnedOn){
                    if (min < 10) {
                        results.add(String.format("%d:0%d", hour, min));
                    }
                    else{
                        results.add(String.format("%d:%d", hour, min));
```

```
            }
        }
        return results;
    }
}
```

Output:



Problem 2: Word Ladder II

Code:

```
public List<List<String>> findLadders(String beginWord, String endWord, List<String> wordList) {

        HashMap<String,Integer> hm = new HashMap<>();
        Queue<Pair> q=new ArrayDeque<>();
        q.add(new Pair(beginWord,1));
        HashSet<String> visited=new HashSet<>();
        visited.add(beginWord);
        while(q.size()>0)
        {
           Pair rem=q.remove();
           String word=rem.word;
           int steps=rem.steps;
           hm.put(word,steps);
           if(endWord.equals(word)){
              break;
           }
```

```
for(String trav:wordList){
        {
            if( visited.contains(trav)==false && isDiffOne(word,trav))
            {
               visited.add(trav);
               q.add(new Pair(trav,steps+1));
            }
         }
       }


    List<String> arl=new ArrayList<>();
    ans=new ArrayList<>();

    System.out.println(hm);

    if(hm.containsKey(endWord)==false)
       return ans;

    dfs(endWord,beginWord,wordList,hm,arl);

    return ans;

}
List<List<String>> ans;
```

```
    public void dfs(String end, String begin, List<String> wordList, HashMap<String,
Integer> hm, List<String> arl)
    {



       if(end.equals(begin)){
            arl.add(0,begin);
            List<String> temp=new ArrayList(arl);
            ans.add(temp);
            arl.remove(0);
            return;
        }


        arl.add(0,end);
        for(String trav:hm.keySet())
        {
            if(hm.get(trav)<hm.get(end) && isDiffOne(end,trav))
                dfs(trav,begin,wordList,hm,arl);
        }
       arl.remove(0);
    }
```

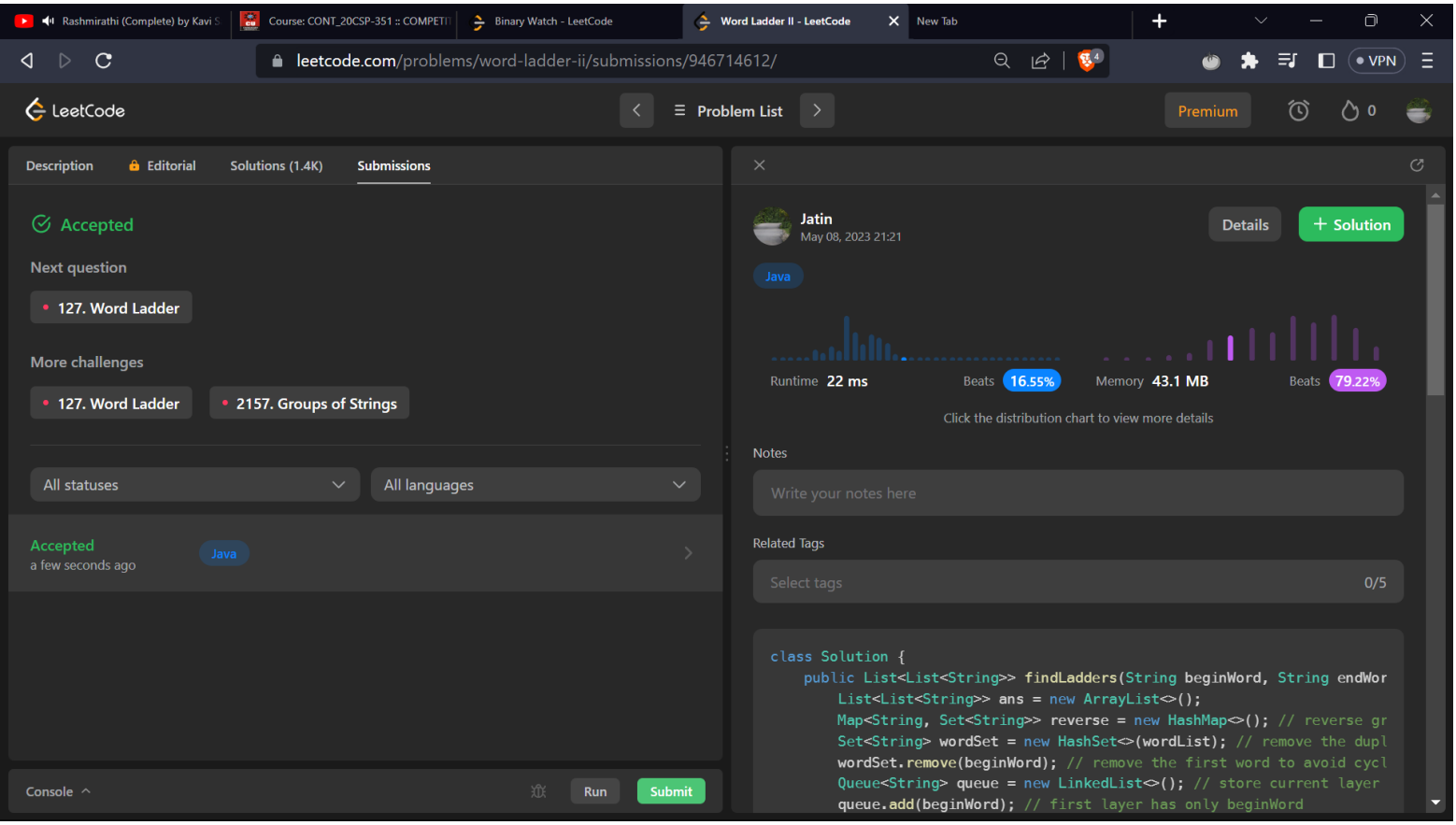
```
public boolean isDiffOne(String s1, String s2)
{
    if(s1.equals(s2))return false;
    int count=0;
    for(int i=0;i<s1.length();i++){
        if(s1.charAt(i)!=s2.charAt(i))count++;
        if(count>=2)return false;
    }
    if(count==1)return true;
    return false;
}




class Pair{
    String word;
    int steps;
    Pair(String word, int steps){
        this.word=word;
        this.steps=steps;
    }
}
```

}

Output:


Rashmirathi (Complete) by Kavi S
Course: CONT_20CSP-351 :: COMPETI
Binary Watch - LeetCode
Word Ladder II - LeetCode
New Tab
leetcode.com/problems/word-ladder-ii/submissions/946714612/
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127. Word Ladder
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All statuses
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Run
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May 08, 2023 21:21
Details
+ Solution
Java
Runtime 22 ms
Beats 16.55%
Memory 43.1 MB
Beats 79.22%
Click the distribution chart to view more details
Notes
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Related Tags
Select tags
0/5
class Solution {
public List<List<String>> findLadders(String beginWord, String endWor
List<List<String>> ans = new ArrayList<>();
Map<String, Set<String>> reverse = new HashMap<>(); // reverse gr
Set<String> wordSet = new HashSet<>(wordList); // remove the dupl
wordSet.remove(beginWord); // remove the first word to avoid cycl
Queue<String> queue = new LinkedList<>(); // store current layer
queue.add(beginWord); // first layer has only beginWord