National University of Computer and Emerging Sciences

Coverage Report

CS4036 Project

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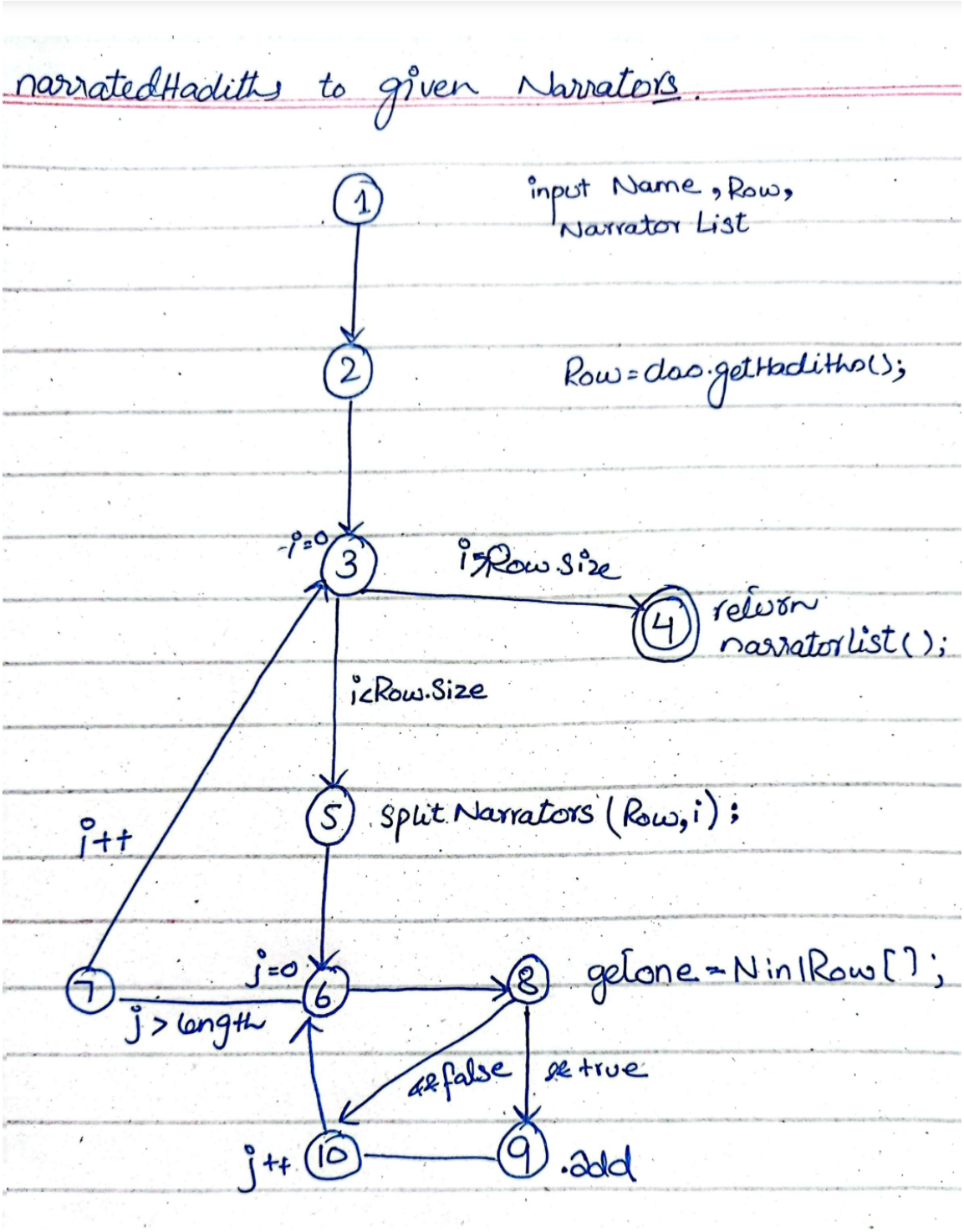
BLL Functions

1. <toNarrators>

```
    /**
     *
     * @author zain
     *
     */

    public ArrayList<String> narrateHadithsToGivenNarrator(String inputName) {

        ArrayList<String> Row = new ArrayList<String>();
        ArrayList<String> narratorsList = new ArrayList<String>();

        Row = dao.getHadiths();// ----> get all rows here

        for (int i = 0; i < Row.size(); i++) {
            String[] NarratorsInOneRow = SplitNarrators(Row, i);
            for (int j = 0; j < NarratorsInOneRow.length - 1; j++) {
                String getOne = NarratorsInOneRow[j];
                if (getOne.equals(inputName) &&
!narratorsList.contains(NarratorsInOneRow[j + 1])) {
                    narratorsList.add(NarratorsInOneRow[j + 1]);
                }
            }
        }
        return narratorsList;
    }
```

2. CFG


narratedHadiths to given Narrators.
1
input Name, Row, Narrator List
2
Row = dao.getHadiths();
i=0
3
i>Row.size
4
return narratorlist();
i<Row.size
5
split Narrators (Row, i);
i++
7
j=0
6
8
getOne = Nin1Row[];
j > length
false
true
j++
10
9
.add

3. TR set for Edge-Pair Coverage

TR= { (1,2,3), (2,3,4), (2,3,5), (3,5,6), (5,6,8), (5,6,7), (6,8,9), (6,8,10), (8,9,10), (8,10,6), (9,10,6), (10,6,8), (10,6,7), (6,7,3), (7,3,4), (7,3,5) }

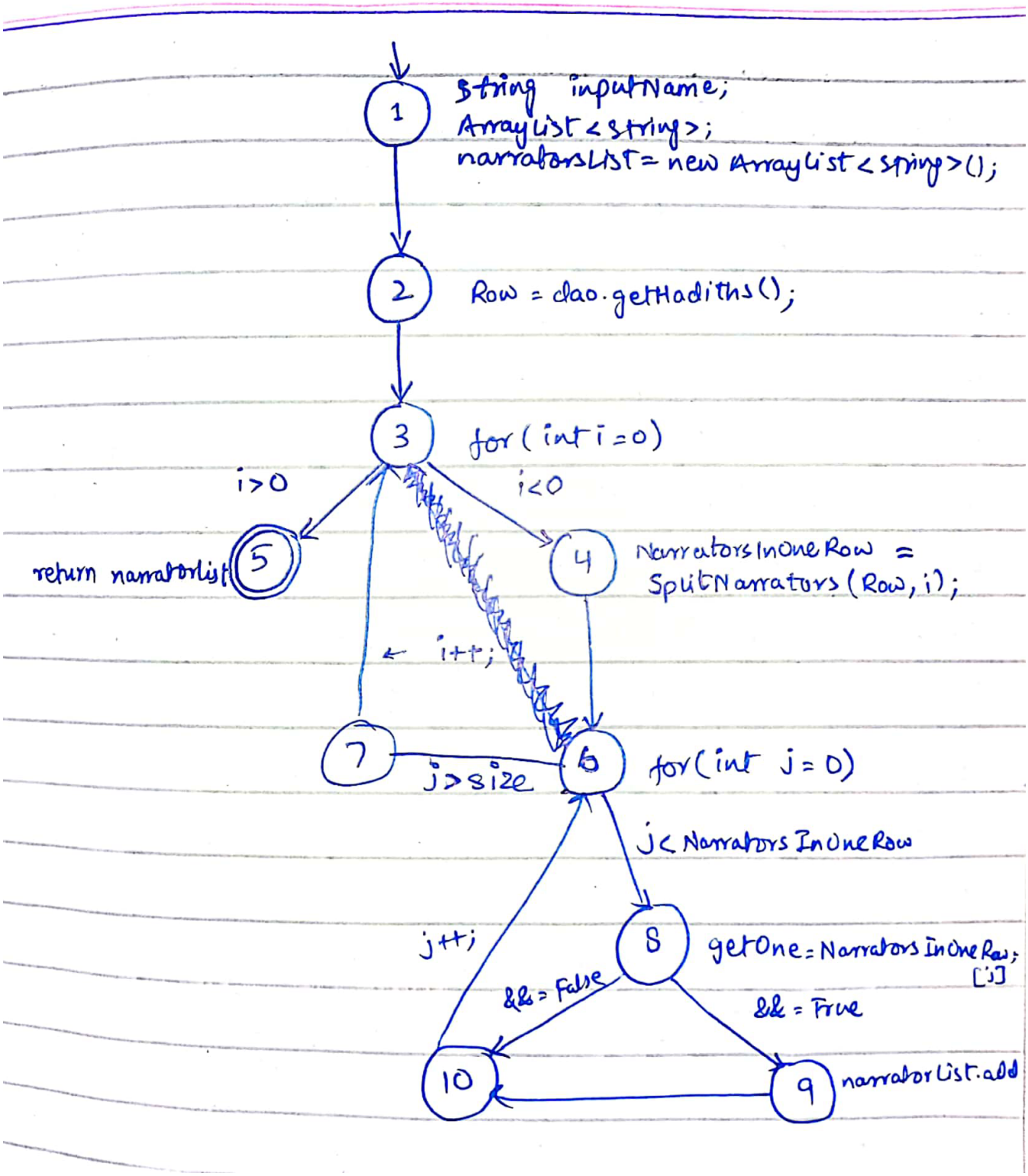
4. Test Paths

[1,2,3,4]	[1,2,3], [2,3,4]
[1,2,3,5,6,8,9,10,6 ,7,3,4]	[1,2,3], [2,3,5], [3,5,6], [5,6,8], [6,8,9], [8,9,10], [9,10,6], [10,6,7], [6,7,3], [7,3,4]
[1,2,3,5,6,8,10,6,8,10,6,7,3,4	[1,2,3], [2,3,5], [3,5,6], [5,6,8], [6,8,10], [8,10,6], [10,6,8], [10,6,7], [6,7,3], [7,3,4]

5. *<fromNarrators>:*

```
    /**
     *
     * @author danish
     *
     */
    public ArrayList<String> narrateHadithsFromGivenNarrator(String inputName) {

        ArrayList<String> Row = new ArrayList<String>();
        ArrayList<String> narratorsList = new ArrayList<String>();
        Row = dao.getHadiths();// ----> get all rows here

        for (int i = 0; i < Row.size(); i++) {
            String[] NarratorsInOneRow = SplitNarrators(Row, i);
            for (int j = 0; j < NarratorsInOneRow.length - 1; j++) {
                String getOne = NarratorsInOneRow[j];
                if (getOne.equals(inputName) &&
!narratorsList.contains(NarratorsInOneRow[j + 1])) {
                    narratorsList.add(NarratorsInOneRow[j - 1]);
                }
            }
        }
        return narratorsList;
    }
```

6. CFG


1
String inputName;
ArrayList<String>;
narratorsLIST= new ArrayList<string>();
2
Row = dao.getHadiths();
3
for(int i=0)
i>0
i<0
5
return narratorlist;
4
NarratorsInOneRow =
SplitNarrators(Row,i);
i++;
7
6
for(int j=0)
j>size
j< NarratorsInOneRow
j++;
8
getOne=NarratorsInOneRow;
[j]
&&= False
&& = True
10
9
narratorList.add

7. TR set for Edge-Pair Coverage

TR= { (1,2,3), (2,3,4), (2,3,5), (3,4,6), (4,6,7), (4,6,8), (6,7,3), (7,3,4), (7,3,5), (6,8,9), (6,8,10), (8,9,10), (8,10,6), (9,10,6), (10,6,7), (10,6,8) }

8. Test Paths

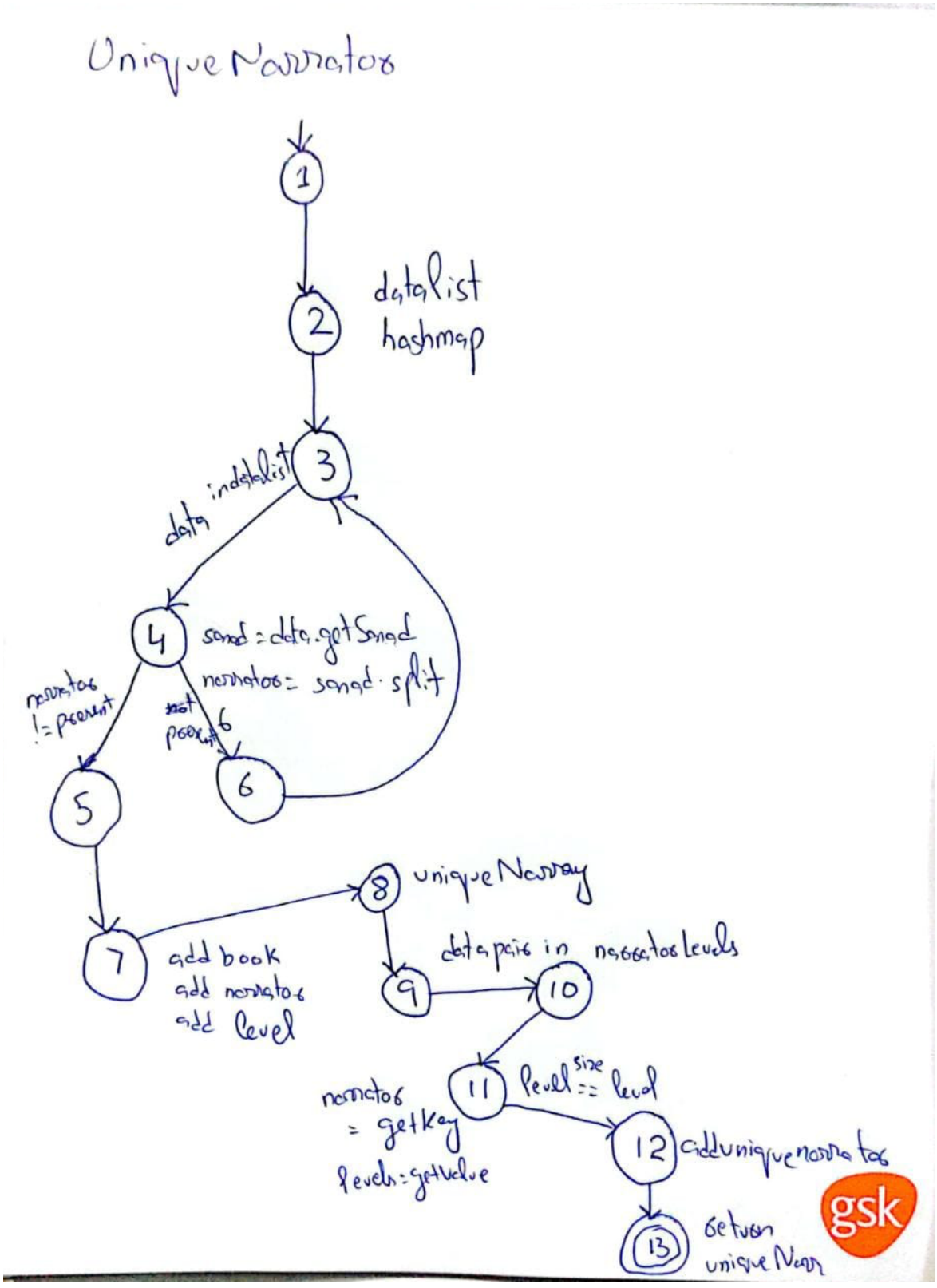
[1,2,3,5]	[1,2,3], [2,3,5]
[1,2,3,4,6,7,3,4,6,8,9,10,6,7,3,5]	[1,2,3], [2,3,4], [3,4,6], [4,6,7], [4,6,8], [6,7,3], [7,3,4], [7,3,5], [6,8,9], [8,9,10], [9,10,6], [10,6,7]
[1,2,3,4,6,8,10,6,8,10,6,7,3,5]	[1,2,3], [2,3,4], [3,4,6], [4,6,8], [6,7,3], [7,3,5], [6,8,10], [8,10,6], [10,6,7], [10,6,8]

9. <uniqueNarrators>:

```
    /**
     *
     * @author Talha
     *
     */

    @Override
    public List<String> getUniqueNarratorsAtLevelN(String book, int level) {
        List<Hadees> dataList = dao.getDataByBook(book);
        Map<String, Set<String>> narratorLevels = new HashMap<>();
        for (Hadees data : dataList) {
            String sanad = data.getSanad();
            String[] narrators = sanad.split(",");
            for (int i = 0; i < narrators.length; i++) {
                String narrator = narrators[i].trim();
                Set<String> levels = narratorLevels.get(narrator);
                if (levels == null) {
                    levels = new LinkedHashSet<>();
                    narratorLevels.put(narrator, levels);
                }
                levels.add(data.getBook() + "-" + data.gethadithNum() + "-" + (i +
1));
            }
        }
```

```
        List<String> uniqueNarrators = new ArrayList<>();
        for (Map.Entry<String, Set<String>> entry : narratorLevels.entrySet()) {
            String narrator = entry.getKey();
            Set<String> levels = entry.getValue();
            if (levels.size() == level) {
                uniqueNarrators.add(narrator);
            }
        }
        return uniqueNarrators;
    }
```

10.CFG


UniqueNarrators
1
2
datalist
hashmap
3
data : indatalist
4
saad = data.getSaad
narrators = saad.split
narrators != present
not present
5
6
7
add book
add narrators
add level
8
uniqueNarray
9
data pairs in narrators levels
10
11
level size == level
narrators = getKey
levels = getValue
12
addUniqueNarrators
13
getUniqueNarr
gsk

11. TR set for Edge-Pair Coverage

TR = { {1,2,3}, {2,3,4}, {3,4,5}, {3,4,6}, {4,5,7}, {4,6,3}, {6,3,4}, {5,7,8}, {7,8,9}, {8,9,10}, {9,10,11}, {10,11,12}, {11,12,13} }

12. Test Paths

[1,2,3,4,6,3,4,6,3,4,5,7,8,9,10,11,12,13]	[1,2,3], [2,3,4], [3,4,5], [3,4,6], [4,5,7], [4,6,3], [6,3,4], [5,7,8], [7,8,9], [8,9,10], [9,10,11], [10,11,12], [11,12,13]
[1,2,3,4,5,7,8,9,10,11,12,13]	[1,2,3], [2,3,4], [3,4,5], [4,5,7], [5,7,8], [7,8,9], [8,9,10], [9,10,11], [10,11,12], [11,12,13]