

Gebze Technical University
Computer Engineering

CSE 222
2017 Spring

HOMEWORK 8 REPORT

STUDENT NAME : Muhammet Bedirhan Çağlar
STUDENT NUMBER : 141044073

Course Assistant: Seyma Yücer

~Problem solutions approach

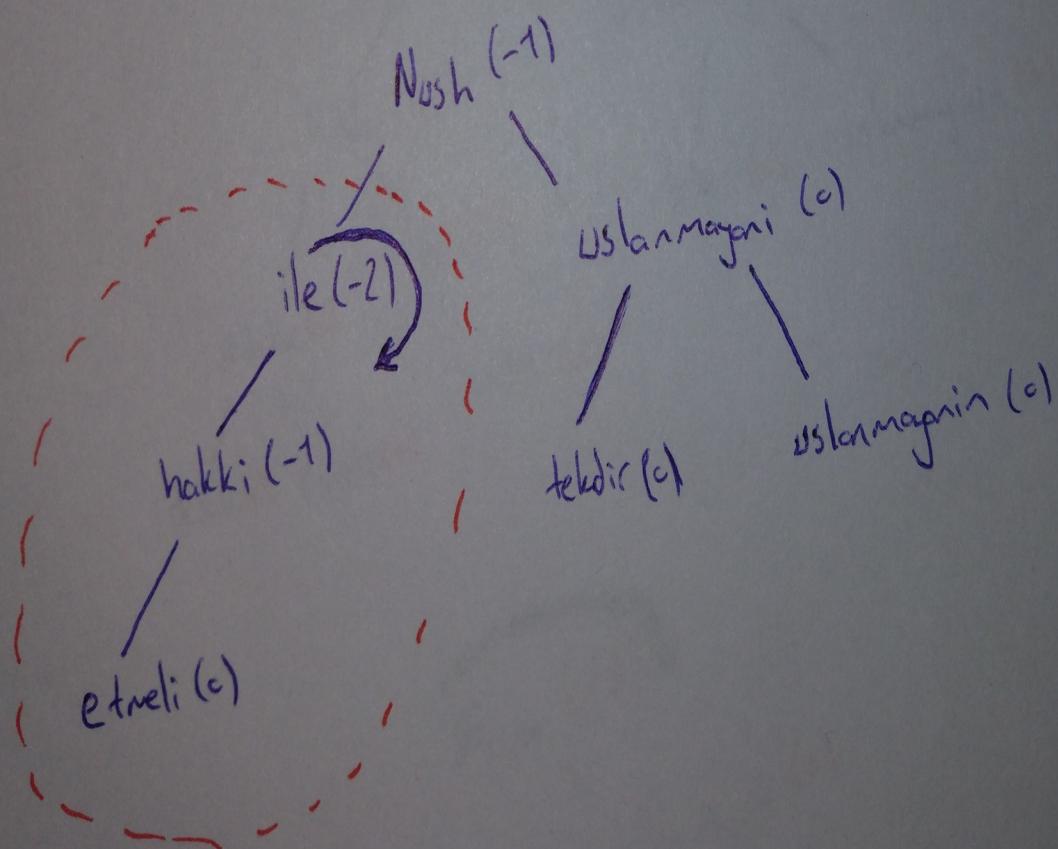
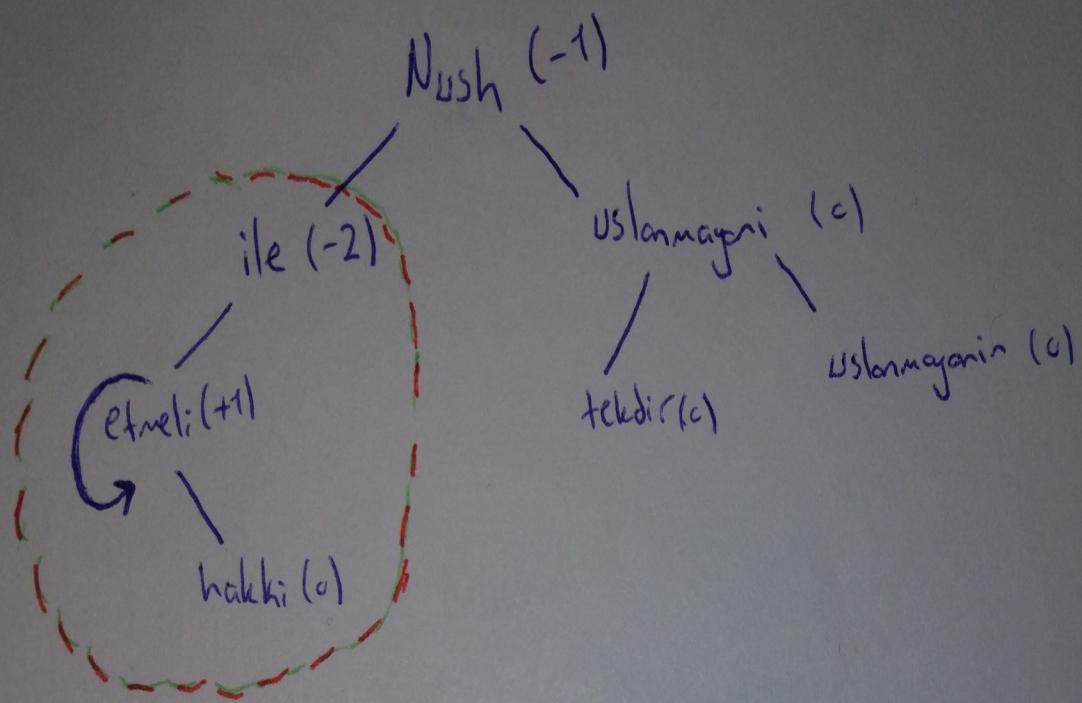
=> 1. Soru için verilen problemi gerekli rotateleri yaparak AVL ağacına seçeneklerde verilen insert ve remove işlemlerini uygulayarak doldurdum.

=>2. Soru için verilen problemde ise ideal skip-list için level-1 , level-2 , level-4 , level-8 , level-16 uygulayarak listi çizdim.

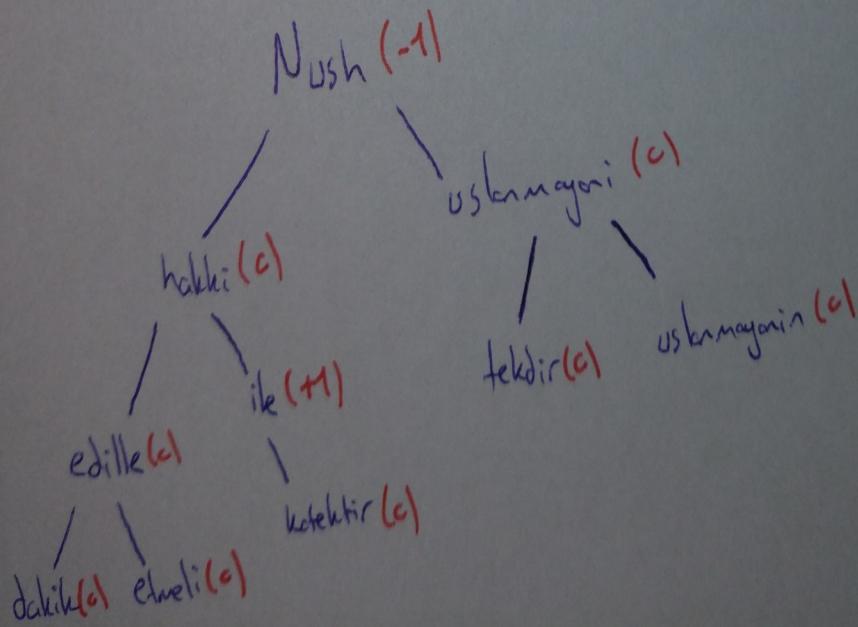
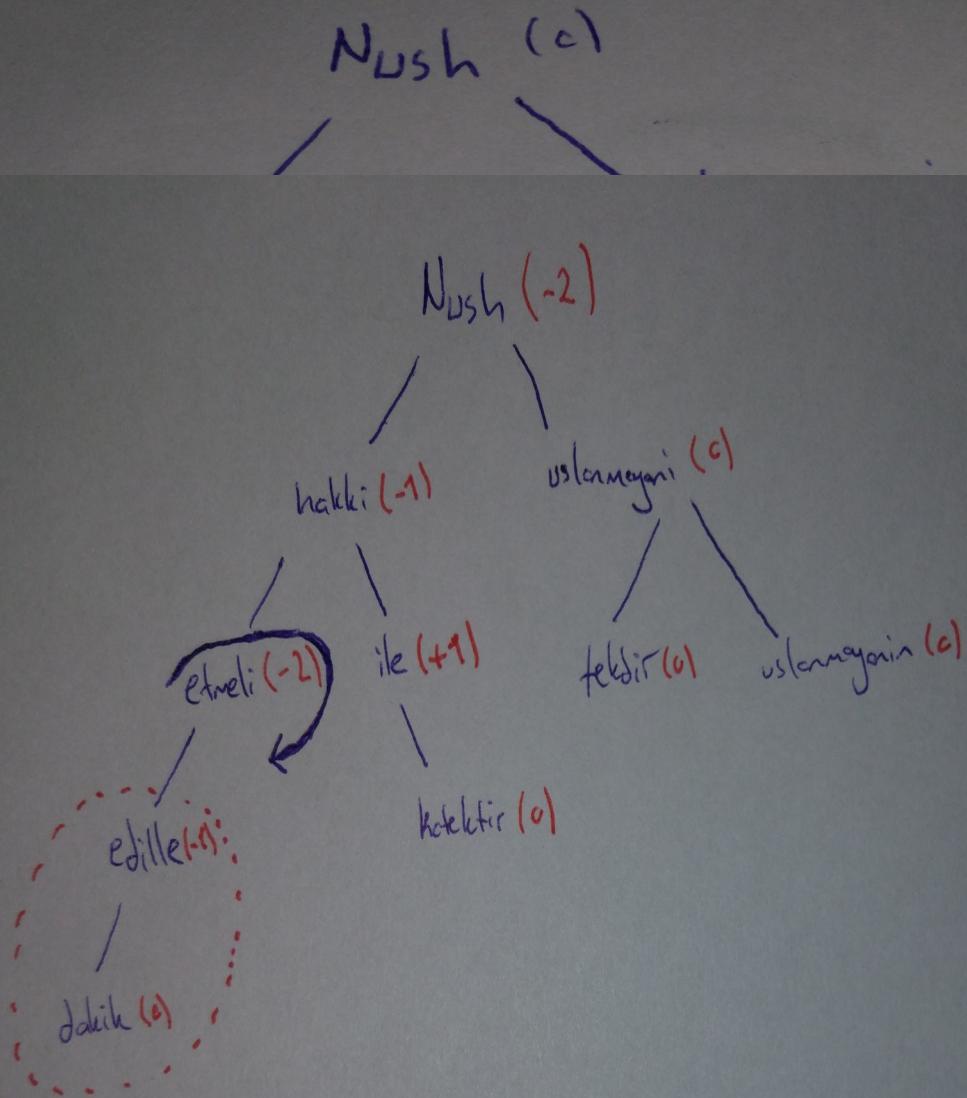
Not: Nush kelimesinin ascii de en küçük değere sahip olduğunu sonradan farkettim. Nush ' i nush olarak düşünerek yaptım.

~ Results ~

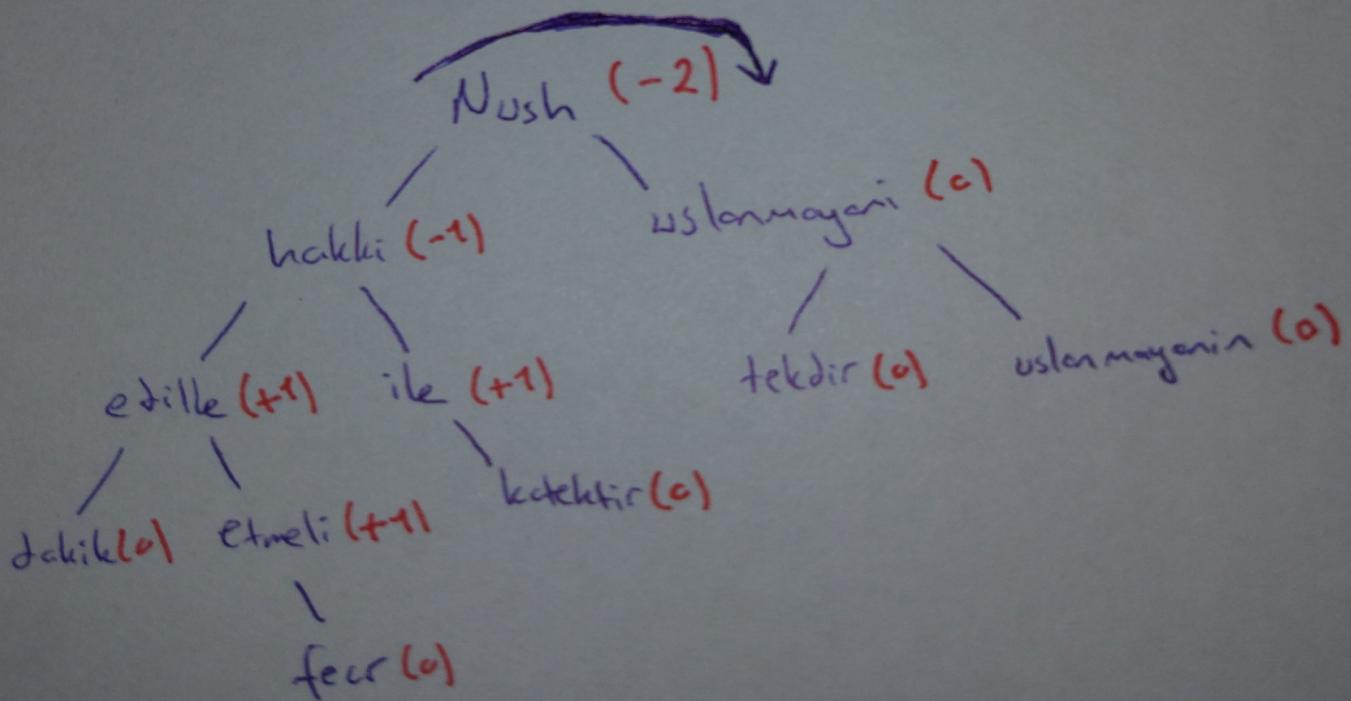
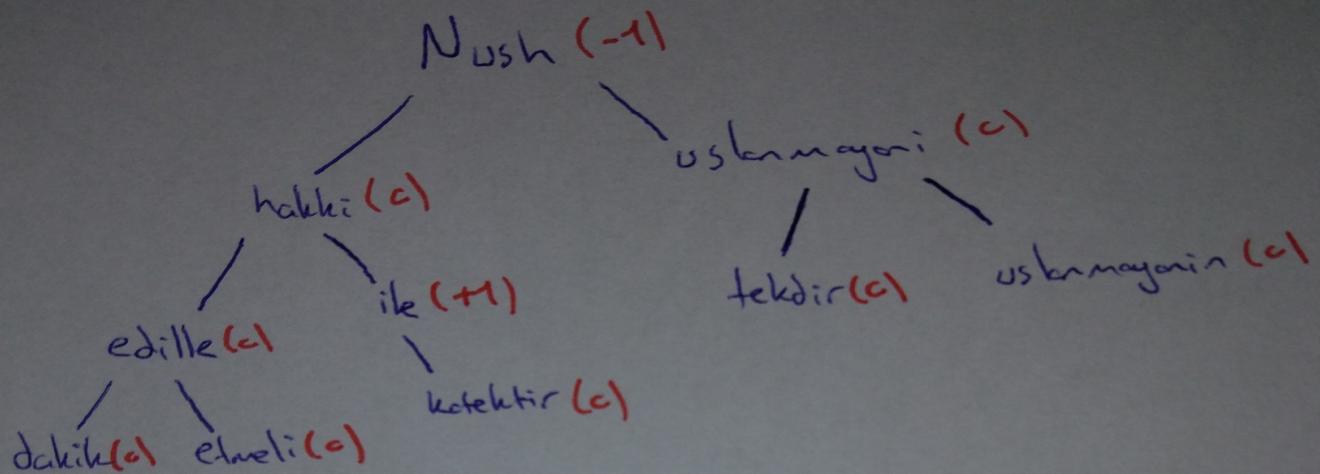
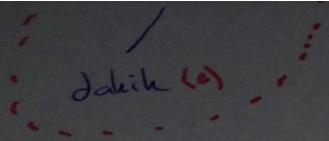
Q-1)

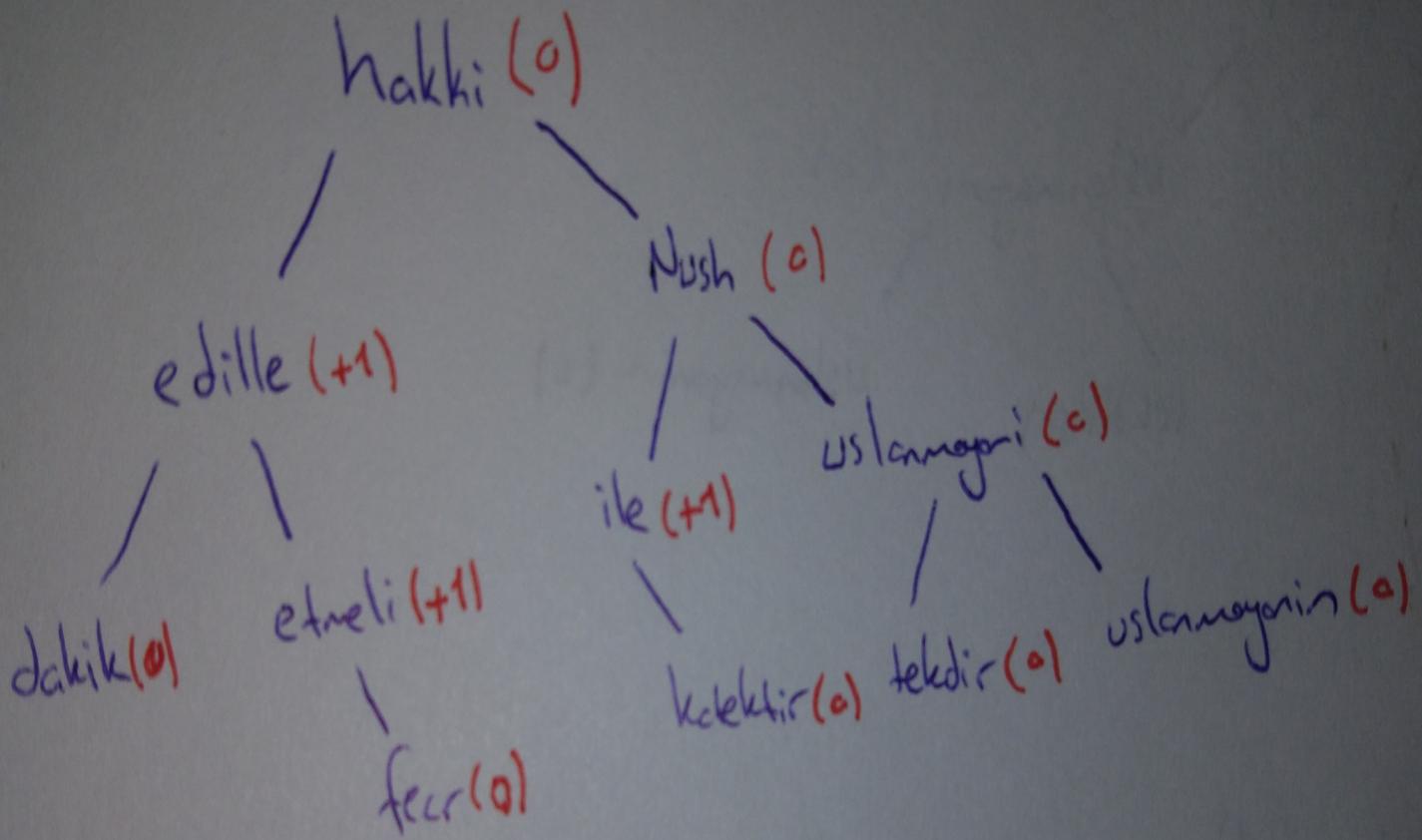


Insert : edille,dakik

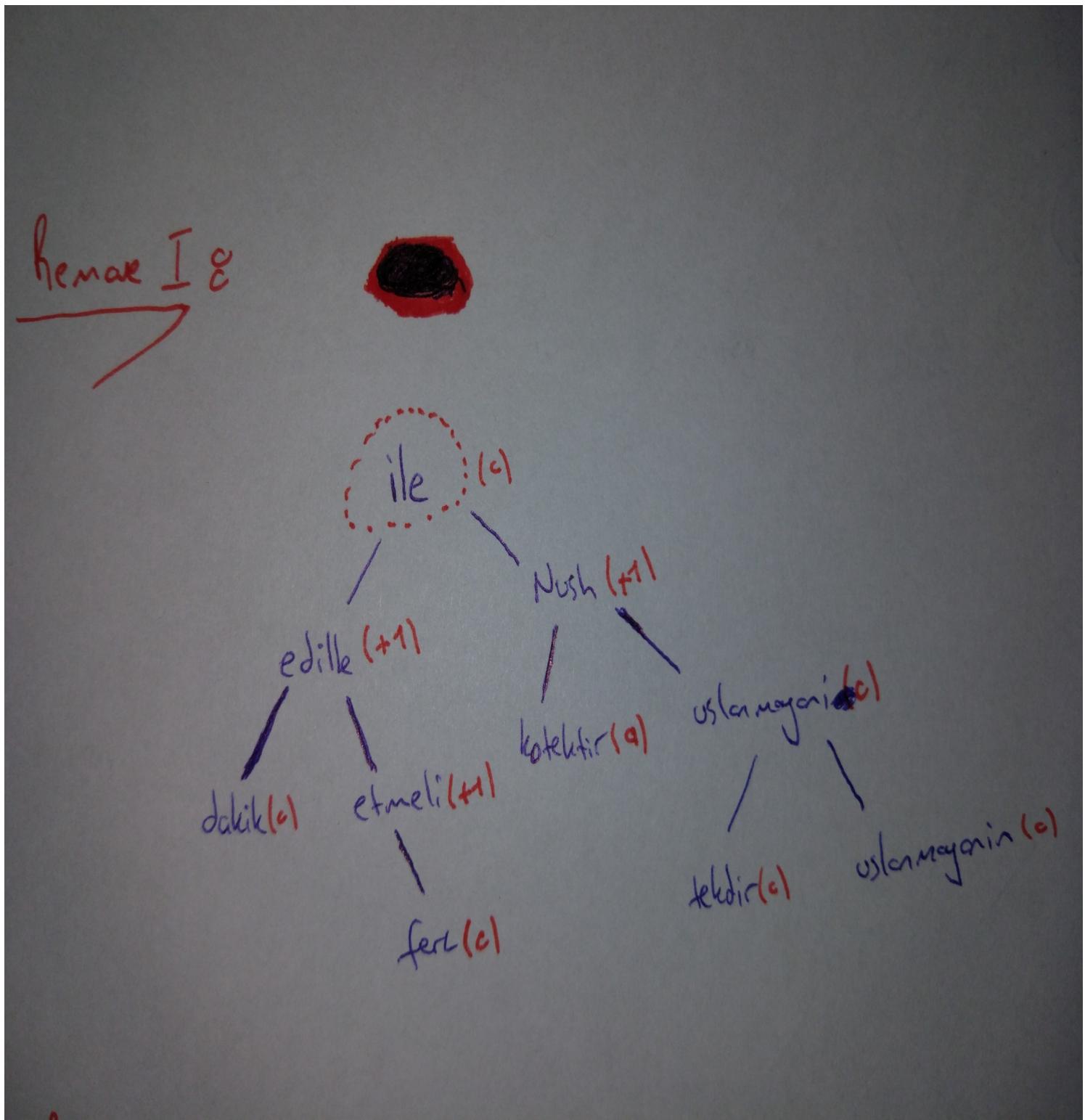


Insert : ferc

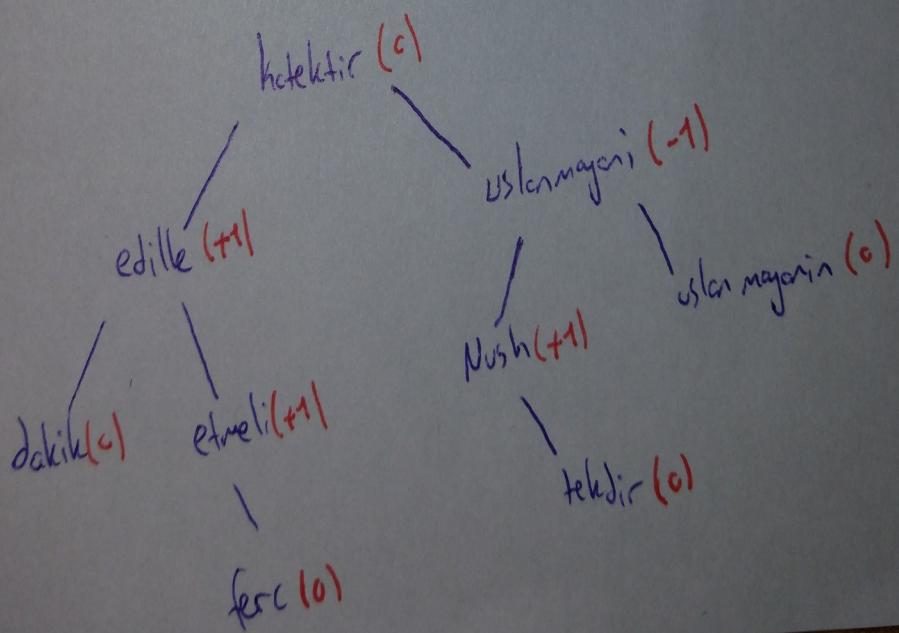
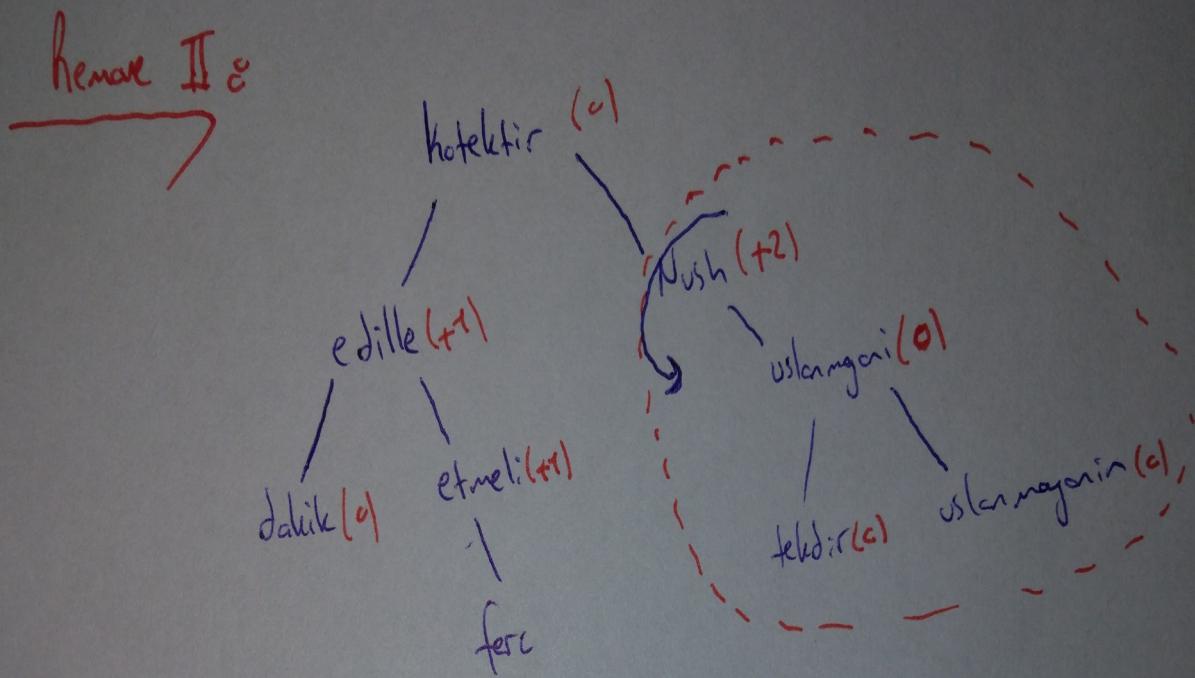




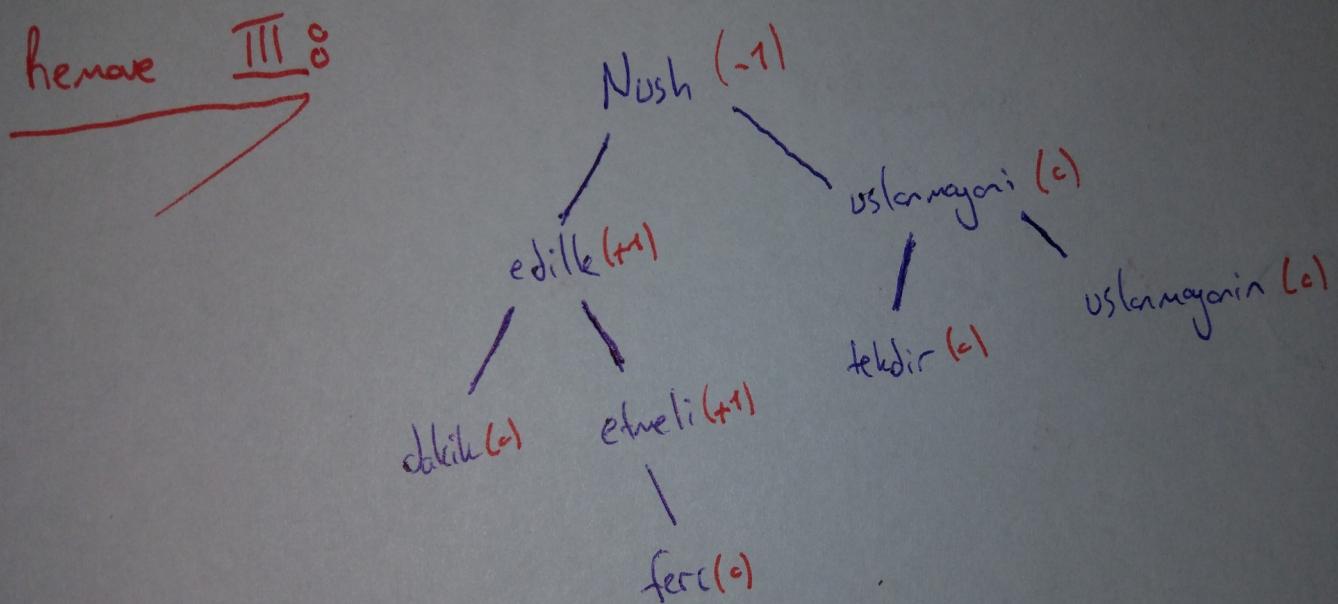
Remove 1: hakki



Remove 2 : ile

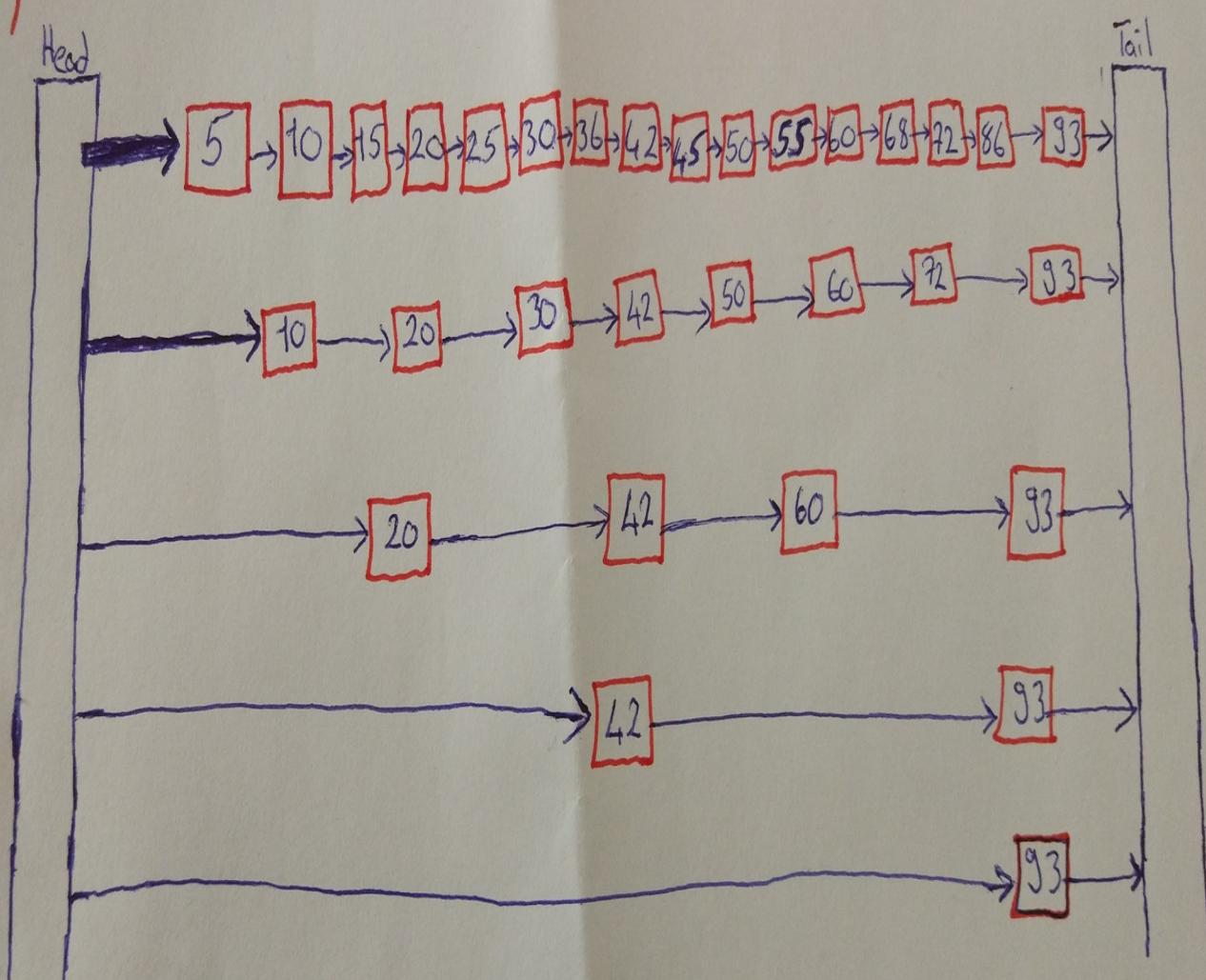


Remove 3: kotektir



Q2-)

Q2-1



Q3-)

Test1~

The screenshot shows the IntelliJ IDEA interface with the following details:

- Project Structure:** The project is named "hw8". The "src" directory contains several packages: AVLTree, BinarySearchTree, BinarySearchTreeWith, BinaryTree, Main, and SearchTree.
- Main.java:** The main class has a single method, main(). The code initializes an AVL tree and adds the following names:

```
AVLTree<String> mytree = new AVLTree<>();  
mytree.add("Nush");  
mytree.add("ile");  
mytree.add("uslanmayani");  
mytree.add("etmeli");  
mytree.add("tekdir");  
mytree.add("tekdir");  
mytree.add("ile");  
mytree.add("uslanmayanin");  
mytree.add("hakki");  
mytree.add("kotektir");
```
- Run Tool Window:** The "Main" configuration is selected, and the output shows the tree structure:

```
1: ile  
0: etmeli  
0: Nush  
null  
null  
0: hakki  
null  
null  
-1: uslanmayani  
-1: tekdir  
0: kotektir  
null  
null  
0: uslanmayanin  
null  
null
```
- Bottom Navigation:** The navigation bar includes tabs for Messages, Run, TODO, Terminal, and Event Log.

Test2~

The screenshot shows an IDE interface with the following details:

- Project Bar:** hw8 > src > Main
- Toolbars:** Standard icons for file operations.
- Left Sidebar:** Shows the project structure under "hw8". The "src" folder is expanded, displaying files: AVLTree, BinarySearchTree, BinarySearchTreeWith, BinaryTree, Main, and SearchTree. "Main.java" is the active file.
- Main.java Content:** The code is a main method that adds several strings to a tree named "mytree".

```
8     mytree.add("Bir");
9     mytree.add("berber");
10    mytree.add("bir");
11    mytree.add("berbere");
12    mytree.add("gel");
13    mytree.add("beraber");
14    mytree.add("bir");
15    mytree.add("berber");
16    mytree.add("dukkani");
17    mytree.add("acalim");
18    mytree.add("demis");
```
- Run Tab:** Shows the command "C:\Program Files\Java\jdk1.8.0_111\bin\java" ... followed by the output of the program's execution. The output shows the tree structure:

```
1: berber
  0: acalim
    0: Bir
      null
      null
    0: beraber
      null
      null
  1: bir
    0: berbere
      null
      null
    0: dukkani
      0: demis
        null
        null
      0: gel
        null
```
- Bottom Navigation:** Messages, Run, TODO, Terminal, Event Log.