**Atılım University**
**Computer Engineering Department**

## COMPE 226 Data Structures Homework III

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**Due Date: May 29, 2022 (23.55)**

**Problem: :** You are asked to use the Binary Search Tree on a set of numbers. You are expected to insert the numbers into the Binary Search Tree. Besides searching for the given item, the program must return the number of occurences of the item in the binary search tree, as in the below examples.

Write the code for this problem and test it with the example numbers.

Example Numbers:

| 10 | 14 | 44 | 44 | 44 | 44 | 50 | 50 | 55 | 66 |
|----|----|----|----|----|----|----|----|----|----|

**Example-1:**

Assume that you are given the above numbers, the modified version of Binary Search will output 4 for the search item 44.

**Example-2:**

Assume that you are given the above numbers, the modified version of Binary Search will output 2 for the search item 50.

**Example-3:**

Assume that you are given the above numbers, the modified version of Binary Search will output 1 for the search item 66.

**Example-4:**

Assume that you are given the above numbers, the modified version of Binary Search will output 0 for the search item 13.

## RULES & REGULATIONS

- You must **submit** your homework **via Moodle** <u>before the due date/time</u> .
- Homework submitted via email will be **ignored**!
- <u>**Late submissions will NOT be graded.**</u>
- **Before submission check that**:
    - o You can use any IDE you want, but we prefer to you use **Dev C++, CodeBlocks** or **Embarcadero**
    - o Set your language standard to **ISO C++11**
    - o Name your homework file as in the format **lastname_firstname_hw3.cpp**.
    - o **Do NOT use Turkish characters when you name C++ source file.**
    - o **Do NOT upload .exe file. Otherwise you will get ZERO.**
- **Your codes** will be checked by special software (JPLAG & MOSS) for code similarity. If the **code similarity** between any two or more submissions is **higher than %80**, we will also

examine and compare these codes by eye. If we are convinced that the similarity between two codes is not merely a coincidence, **all involved HWs will get 0 as the grade**.

- Expect grades **below 30 points** when the submitted program **cannot be compiled and tested**.
- **Therefore**;
  - o **Group study is not allowed.** Everyone needs to do his/her homework as an individual.
  - o **Be careful when you use Internet resources! Not use them directly!** If any other student uses the same source then your submissions will be found as similar!
  - o **Do not share your solution/ideas with others.**
- Moreover, if we believe that the students cheat on these homework, we will initiate a **disciplinary act**!